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ANATOMICAL AND CLINICAL STUDY OF TWO HUNDRED POST-MORTEM SPECIMENS OF PROSTATIC HYPER- TROPHY—(PRELIMINARY REPORT).

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The surgical evolution through which we are passing in regard to the prostate is, it would appear, about completed, if judgment is to be based wholly upon opinions expressed by recently published views on the subject, for we are led to think that prostatectomy for the cure of urinary obstruction only needs a little modification in its minor details and technique to establish the procedure as the operation of the future for these cases. Indeed, Dr. Moore, of Minneapolis, only recently stated that it was destined to be one of the greatest boons modern surgery had to offer suffering mankind.

The consensus of opinion among recent writers covering the present status of urinary obstruction is fairly expressed by Ferguson in the following conclusion:

"The present status of the indication for an operation is that unless the urinary flow is interfered with and is not overcome by massage of the prostate and treatment of the deep urethra, then some one of the radical operations ought to be done. The present status of the incision, I think, resolves itself into the median incision as the proper one. The Y-shaped incision is being discarded. The median incision does not tear the folds of the perineum or injure the perineal artery and there is not as much hemorrhage. It is the incision of the expert. The present status of the removal of the whole prostate is that we can remove the whole prostate through the perineum with less risk than we can suprapubically. In the vast majority of cases you can enucleate the prostate with the finger. When the bladder has been attacked by repeated inflammations it must be removed piecemeal. The present status of dealing with the prostatic urethra is that we can remove the posterior prostatic urethra, and some have reported removing the entire prostatic urethra, without stricture. The present status of the perineal operation is that there are today about 200 cases reported with less than 5 per cent. mortality."

The trend of the surgery of the day is towards this conclusion, and we may safely assure ourselves that we are now well within the era of routine prostatectomy for the treatment of quite all of the forms of urinary obstruction, just as we were a few years ago in the era of prostatotomy, suprapubic prostatectomy, and later castration and vasectomy and now perineal prostatectomy. The authors of those days were just as enthusiastic over the good results from suprapubic prostatectomy, and one would have but little trouble in finding in the pages of the medical journals of those days expressions similar to those of Dr. Moore upon the prompt and happy effects of castration and that the procedure then was proving one of the "greatest boons surgery had to offer suffering mankind." Many of the most distinguished surgeons of America have recently published contributions covering results of their clinical observation and practical experience in perineal prostatectomy; and it is only necessary to mention the names of Senn, Guiteras, Syms, Ochsner, Parke, Young, Bryson, Ferguson, Murphy, Deaver and other equally well-known American authors, to show with what authority the era of routine prostatectomy has been established in this country as the adopted plan of treating this disease. There is no difference of opinion in this regard shown by these contributors and no marked difference in the enthusiasm manifested, whether it be considered premature or otherwise, all agreeing as to the status of the indications for a total perineal prostatectomy. In corroboration of this statement I may add the conclusions reached by Murphy to those cited above as coming from Ferguson:

"It appears evident that in the hands of safe, far-seeing, informed practitioners few cases will now be allowed to progress to an extreme condition before radical means are resorted to for permanent relief. The practice of today should be timely practice. The continued use of the catheter is a menace to life, not to mention the discomfort. No matter how favorable the conditions for its performance, the patients always suffer sooner or later from cystitis and its sequelæ.

"Prostatectomy gives a better result and is fraught with very little more danger than prostatotomy. Suprapubic prostatectomy should be limited to exceptional cases of enormous intravesical enlargement of the prostate. It appears to us to endanger the sphincteric control more than the perineal operation. It is more sanguinary and the work is more difficult and distant from the operator. The perineal operation is a more direct and less bloody route. It gives greater security against injury to the bladder wall and less liability to disturbance of the internal sphincter.

"The prostate is drawn out easily with sharp-hook retractors and best separated from the bladder from behind forward—i. e., *through a small incision. It should always be an intercapsular enucleation en masse, allowing the anterior isthmus to remain.*"

The indications for perineal prostatectomy as given by this author are:

"*First*—Prostatic enlargement to a pathologic degree—*i. e.*, sufficient to prevent urination, or cause much pressure.

Second—Painful and frequent urination.

Third—Cure for catheteral life.

Fourth—Cure for secondary cystitis.

Fifth—For the relief of pressure on the rectum.

Sixth—It ought to be the operation of election, if the patient is in condition to stand the operation and local conditions are favorable. The operation should not be considered nor used as a last resort."

In his enthusiasm over the possibilities of perineal prostatectomy, this author is led to brush aside the pioneer work of Sir Henry Thompson with the following brief reference:

"Even so modern a man as Sir Henry Thompson said that he did not believe it was possible to operate on a case of enlarged prostate and have a result that would permit the patient to discontinue his use of the catheter and still be able to empty his bladder and retain his urine. Now, we know that these results are of daily occurrence."

I think it may be found that quite sixty years have elapsed since Sir Henry Thompson pronounced the dictum that "a confirmed atony of the bladder consequent upon prostatic enlargement is incurable even by the removal of the prostate gland," and I shall later on show you proofs amply sufficient to verify the correctness of Sir Henry's views in this regard. Thompson advocated drainage in these cases and was contented with this safer and more simple means of relief, and I believe that when the profession of the present time can see the real conditions in urinary obstruction in the same light as did Sir Henry, it will realize that his views were not far from being the correct ones and that there is still a boon left to suffering mankind without the aid of a desperate surgical possibility.

It is a fact that I must emphasize at this point that all those who are advocating prostatectomy agree that the hypertrophied prostate is about the sole cause for all the patient's trouble, that there is a general concord among writers that in all the cases of hypertrophy of the prostate with symptoms of difficult micturition, the hypertrophy is the cause of either the painful, frequent or difficult micturition. All agree that if the patient's general condition will admit of it, a perineal prostatectomy offers the best and safest means of relief. All agree that perineal prostatectomy is the proper method of procedure for the cure of these cases and it is always indicated in cases with *marked symptoms of urinary obstruction*. All agree that in skilled hands familiar with the *improved technique*, the prostate may be enucleated easily and in a few minutes' time.

A notable exception to this unanimity of opinion may, however, be inferred from the writings of Dr. Senn. This author, while admitting the perineal route has been given an extended trial and a very large ex-

perience appears to have decided in its favor, at the same time, with characteristic discriminating judgment and deliberation, sounds a warning to the more enthusiastic advocates of the routine operation of perineal prostatectomy in no uncertain tones, for he says:

"In regard to the indications for prostatectomy, history will repeat itself. Every new surgical procedure has had its enthusiastic advocates who championed extreme views and who would recognize no exceptions and who followed the routine practice. I will refer only to a few operations of recent date that have had such a history. It is not long since thousands of ovaries were sacrificed under the belief that the anticipated climacteric period would correct all kinds of obscure nervous affections until sad experience proved the contrary. It is impossible to estimate the number of healthy appendices that have been removed by surgeons who rely on pain in the right iliac region as conclusive evidence of a diseased vermiform appendix and resort to the knife as the only remedy. Castration for enlarged prostate has unsexed hundreds of men without yielding them an equivalent of the loss sustained. In gall-bladder there are now but few extremists who believe that it should be dealt with in the same radical manner as the appendix when it is said to be diseased. Instances could be multiplied, but the early history of the operations mentioned will suffice to show that new operations are very likely to be abused when first placed on trial, and prostatectomy cannot escape the same fate.

"It is impossible at the present time, so early in the history of this operation, to formulate the exact indications. *The size of the prostate is no criterion to go by in deciding on the propriety or necessity for an operation, as a large prostate may cause less disturbance of the functions of the bladder than one moderately enlarged.* (Italics mine.) Systematic aseptic catheterization will not be displaced entirely by prostatectomy and will continue to be a most valuable resource in the future as it has been in the past."

In referring to the trend of the surgery of the prostate as it is seen by the readers of the medical journals of the present day, a fair idea of the scope of the work embraced in what may be termed the *furor operativus* in regard to the prostate, I shall quote the only question relating to any phase of the subject outside of the operative field as it is asked and answered in a little book recently published, the title of which is "Prostatic Hypertrophy from Every Surgical Standpoint." This quotation is made for the further purpose of showing the diversity of opinion and confusion worse confounded on one single point which exists in the minds of those who are advocating prostatectomy. Of the fourteen questions asked, in the book just referred to, the one to which I refer is formulated as follows:

"Question No. 3. *In brief, (italics mine) what is the etiology of prostatic hypertrophy?*"

Wyeth, of New York, states that "it is due to prolonged irritation of the bladder from any cause together with irritation of the vascular system which is produced by a chronic uric acid and oxalic acid diathesis and excessive use of the prostatic muscle."

Senn says, "antecedent urethral disease, venereal excess and anything causing pelvic congestion."

Lewis, of St. Louis, "subacute chronic congestion or inflammation."

Murphy, of Chicago, "I am unable to determine from my experience any etiologic factor in the production of prostatic hypertrophy. I believe those given in the text-books are erroneous and the result rather of the imagination than a close observance of facts."

Horwitz, of Philadelphia, "not ascertained."

McGowan, of California, "all prostates that I have removed upon examination presented microscopical evidence of inflammation, but whether the inflammation has been the cause of the hypertrophy or an accident arising out of the strains and injuries to the distended and dilated blood vessels by fecal accumulations, catheter or sexual excitement it is impossible to say."

Chassaignac, of New Orleans, "I am an agnostic on this point."

Morton, of Brooklyn, no answer.

Howard Lilienthal, of New York, "fibroma and fibromyoma within the capsule."

Ferguson, of Chicago, "infection engrafted on hyperemia or traumatism. In all my cases the tissues were inflammatory in character."

Fuller, of New York, "I don't know further than that certain races seem to be exempt, for instance, the Japanese and Chinese. I have seen but one case in a full-blooded negro."

Eastman, of Indianapolis, "in the course of microscopical studies of the prostate prosecuted for the purpose of determining the origin of 'corpora amylacea' I have repeatedly noticed in glands only very slightly hypertrophied tissue changes of inflammation as described by Green and Cienchanowski. I am of the opinion that inflammation bears an important relation to prostatic hypertrophy."

Christian, of Philadelphia, "I am inclined at present to believe that the overgrowth of normal glandular muscular elements of the prostate gland constituting the hypertrophy is, first of all, congestive, and secondarily, inflammatory in character."

Morris, of New York, "presumably a simple degenerative change similar to that which occurs in the uterus."

Ricketts, of Cincinnati, "don't know."

Valentine, of New York, "I have not formed an opinion on this question"

Andrews, of Chicago, "it is only conjectural. It seems to me that vigorous men are the most frequent victims, but I have no scientific proof that sexual excess is the cause."

Spencer, of London, "nil."

Greene, of New York, "it is the result of chronic inflammation causing the formation of connective tissue which blocks up the mouths of the acini, causing them to dilate, pseudo adenoma; or the increase in the connective tissue takes place between the acini, causing atrophy of the prostate by compressing them or, if considerable in quantity, causing fibrous prostate. It generally commences as a posterior chronic urethritis from whatever cause."

Wishard, of Indianapolis, "I don't know."

Halstead, of Chicago, "I can formulate no rule regarding the etiology. In a few comparatively young men in whom I have seen hypertrophy I have reason to believe that chronic prostatitis was of etiologic moment. I do not believe that venereal excess nor venereal diseases as a rule have much influence in producing this condition. The etiology I consider is that of new growths, the cause of which is yet unknown."

McGuire, of Richmond, "I have no theory or explanation of the etiology of the disease."

Dandridge, of Cincinnati, "*Quien sabe?*"

Ochsner, of Chicago, "age, recurrent infections, constipation, habitual neglect of the function of the bladder, habitual sexual excess seem the most usual points in the history."

McDonald, of California, "alcohol, gonorrheal cystitis and inflammation of the prostate in middle life, the prostate never having properly recovered; or any condition which causes congestion of the vesical prostatic plexus of the fundus, as excessive masturbation, toying with females without proper emission and liver conditions which cause the hemorrhoidal veins to become varicose."

Glenn, of Nashville, "it is unknown to me, but I believe masturbation in youth and excessive sexual indulgence in later life to be the chief causes."

Dowd, of Buffalo, "the first seed of prostatic hypertrophy is sown in youth, developing insidiously until a true pathologic condition is reached."

Mayo, of Rochester, no answer.

Otis, of New York, "I don't know."

Martin, of Philadelphia, "probably chronic tubercular prostatitis, but I don't know."

Hays, of Milwaukee, "I don't know."

Guiteras, of New York. "I don't know."

Vecchi, of San Francisco, "all my cases were connected with previous inflammation of the urethra and bladder due to some infectious disease and to abuse of coition."

Park, of Buffalo, no answer.

Beck, of New York, "this is too hard a question for a busy practitioner. It is probably a general tendency to sclerosis, due to sedentary habits."

Geiger, of St. Joseph, "gonorrhea and sexual excesses."

Smith, of Portland, no answer.

Mark, of Kansas City, "my studies in this field have led me to the belief that prostatic hypertrophy is the result of a chronic inflammatory process producing new connective tissue formation. The etiologic agent is usually the gonococcus."

Jones, of Portland, Oregon, "any condition favoring chronic congestion"

Phillips, of St. Louis, "undecided."

As stated above, I have referred to the question for the purpose of showing that the profession is absolutely devoid of any consensus of opinion on the etiology of prostatic hypertrophy. I must also mention the fact that in this book, "Prostatic Hypertrophy from Every Surgical Standpoint," there is no question for the profession relating to the pathology of urinary obstruction, and no *inference can be drawn from its contents that urinary obstruction is ever due to any other cause than enlargement of the prostate*. In other words, a book presuming to cover every standpoint of urinary obstruction, makes reference only or in detail to the technique of prostatectomy save in the one single question, the answers to which I have given above. This book, however, displays a marked harmony with the scope of the work recently done in regard to urinary obstruction. I must add, however, in closing my reference to the book, that my intention is wholly foreign to any unjust criticism of this author; for, while it is true that he failed to formulate any questions relating to the various causes of urinary obstruction, or questions relating to the proper surgery in the different forms, those propounded cover the entire field from every standpoint from which the subject is now discussed, and it is for this reason that the author took up all the points for review that are included in the recent contributions to the subject, that I have referred to the book at all. The following paragraph is taken from the author's preface to his book on "Prostatic Hypertrophy From Every Surgical Standpoint," and outlines, it is presumed, the main object he had in view in writing the book, as well as to bring to notice more clearly the work that had been done for the cure of urinary obstruction. The author states:

"It would appear from the number and character of authorities interested in this matter that a publication of greatly increased proportions would be necessary. The aim of the author in this instance is merely to bring to the notice of the practicing physician the *advance made in recent years in this line of work*, and to enable him with minimum effort to talk intelligently with his prostatic sufferers. . . . The object of this, then, aside from that which has just been given, is to enable the physician in charge of such cases to select a surgeon and to prepare such patients in advance to receive the services of a *specialist*."

I shall go no further into the anatomy of the genito-urinary organs just at this time than is necessary to serve the practical purposes of this

report. We must, however, have a pretty clear conception of the relative anatomical positions of the prostatic urethra, vesical orifice of the urethra, anterior wall of the bladder and that portion of the floor of the bladder anterior to the plica ureterica in the normal as well as the pathologic conditions which result from urinary obstruction. In order to see more clearly the various conditions which we must encounter when undertaking the rational treatment of urinary obstruction, we must consider at length these parts and the tissues which go to form them. For our present purpose it is unnecessary to describe even briefly the source of the blood supply or the distribution of nerves, lymphatics or peritoneum, but a review of the anatomy of the arrangement of the muscle

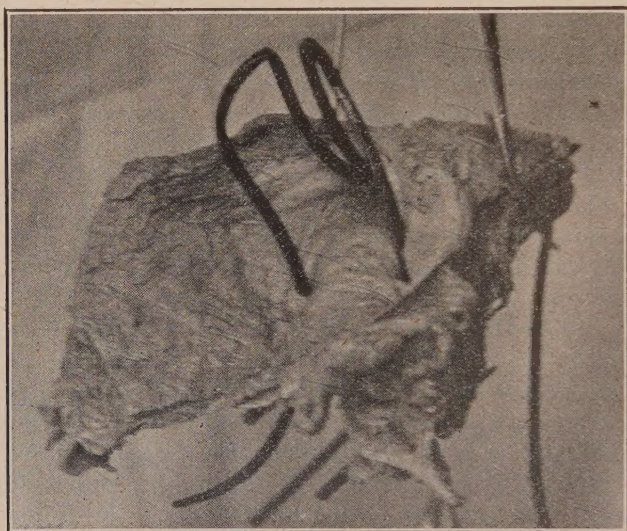


FIG. 1.—Interior of normal bladder, showing relative position of the ureters, floor of the bladder and urethra. The ends of two soft catheters are placed in the urethra, the other ends introduced into the ureters. It may be seen that the ureteral openings are on a line with the urethra.

tissue and mucous membrane will, I am sure, help us greatly in a practical way.

Gross Anatomy.—In viewing as a whole the parts which are chiefly concerned, an important point to bear in mind with reference to their normal appearance in their anatomic relations, is that in the normal bladder the outlet into the urethra is always on a level with the most dependent part of the floor of the bladder, and when the walls of the bladder are in perfect health every drop of urine can be expelled from the bladder provided, of course, that the urine can find its exit through the urethra. Then again it must be remembered that the prostate gland is made up of two lobes only, that there never is a third lobe present in the

normal state. The two lobes are endowed with separate capsules except in the lateral walls of the urethra, which passes directly between the lobes and furnishes the commissure and helps to establish the individual identity of the lobes. These lobes in this condition may be enucleated, one or both, from the capsule, but not, however, from the commissure, without disturbing the integrity of the urethra. The so-called third lobe is never present in the normal prostate, a fact which I have already mentioned, but in the passage of the two ejaculatory ducts from the vasa and seminal glands through the base of the prostate to the verumontanum in the urethra, a division of the lobes is fairly well established. This segment of the prostate provides the floor of the vesical orifice of the urethra, being closely associated with that portion of the bladder wall and I have named this wedge-shaped part of the gland the interfissural segment of the prostate.

Another fact that we must observe and emphasize in passing is that neither lobe of the prostate can be removed *in toto* by any method we have without entirely obliterating all communication between the lobe removed and the testicle of the same side.

Now, in again looking into the normal bladder we see aside from the easy access of the flow of the urine into the urethra that the two ureters open a little distance from one another on to a ridge of mucous membrane extending across and forming the base of the trigone of the bladder. This ridge of mucous membrane is recognized under the name of plica ureterica. Reaching directly forward from the center of this ridge there is the trace or semblance of a tongue formed by a smaller slight elevation of the mucosa and extending quite to the vesical opening of the urethra, a tongue of the mucosa which is termed the uvula of Lieutaud. It is largely these parts we must bear in mind with which we have to contend in many of the forms of urinary obstruction and which play such an important part in the mechanism of urinary obstruction.

By referring to illustration No. 1, we may see the relative anatomic position of the vesicle orifice of the urethra, floor of the bladder and opening of the ureters. This picture shows more clearly than may be described the accessibility of the vesical orifice of the urethra to the floor of the bladder.

The base of the bladder is a very important part of the organ. In the male it is triangle-shaped, bounded at the sides by lateral surfaces, in the front by the base of the prostate and behind by the cul-de-sac formed by the retrovesical folds of the peritoneum. Behind the prostate are the vesiculæ seminales and vasa deferentia. The base is directed backwards and downwards and rests upon the second portion of the rectum. The inner surface of the bladder presents in its floor the floor of the vesical urethra, the trigone, the trigonum vesicæ, or triangle Lieutaudi and the uvula of Lieutaud, different terms which have been used to describe these parts. The entire thickness of the bladder

wall underneath, including the submucosa and muscle tissue of this area, differs from every other part of the bladder in that these tissues are firmly bound together and not susceptible of any gliding motion between them; and the significant feature about this is that when either the hyperplastic process or obstructive hypertrophy are being inaugurated, these become even more firmly solidified, and the mucosa in this area loses its epithelium. It is to be noted as a matter of importance that there is never a diverticulum formed at this point for the reason

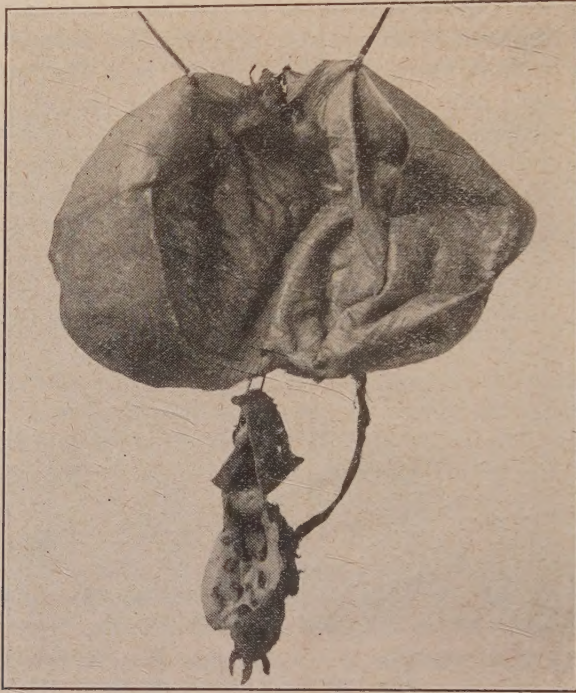


FIG. 2.—Illustration showing interior of bladder and kidney. Pathological conditions resulting from chronic urethral stricture. Clinical symptoms same as those which are present in prostatic hypertrophy, but prostate destroyed by pressure atrophy.

that the arrangement of these tissues will not yield as in other parts of the wall of the bladder.

Prostatic Urethra.—In regard to the prostatic urethra there are certain anatomical points that I wish to especially emphasize in this preliminary report. One point of great importance is a fact which I find at variance with the teachings of text-books on anatomy. The sinus pocularis in the prostatic urethra, for example, is represented by anatomists generally to be the homologue of the uterus and that it terminates by a blind dilated extremity. The truth is, whether it was intended as the

homologue of the uterus or not, it is not a blind sac but instead is in direct communication with both ejaculatory ducts and receives the semen from the seminal glands in the act of emission. Furthermore, I quite conclude that it is a very useful organ. The cavity of the vera, it would appear, is fairly capable of receiving the full charge of an emission from the ejaculatory ducts and at the same time is able and does contribute, I am forced to believe, great force to its expulsion through the urethra. The walls of the vera montanum, in other words, are rich in muscle tissue and the arrangement of these muscle fibres enables this little organ to contribute much power in the quick and forcible expulsion of the



FIG. 3. — Pathologic specimen illustrating ultimate effects of chronic urethral stricture.

semen immediately after being expressed into it by the muscles of the prostate.

In regard to the sinus pocularis as a blind sack, I may explain that those views have been entertained possibly in consequence of the fact that it is difficult, owing to a wise provision in the floor of this cavity, to pass a probe from above downward into the ejaculatory ducts, but if the attempt is reversed, the probe readily passes from the vasa deferentia directly up through the ejaculatory ducts and into the cavity of the sinus pocularis. The slit-like openings upon either side of the vera when present (but are often absent), which are looked upon as the real terminations of the ejaculatory ducts, have actually no direct communication with these ducts, although separated in places only by very

thin layers of prostatic tissue; and in consequence of the ease with which the probe may be guided through these weakly protected spaces, and, on the other hand, the difficulty encountered in the attempt to pass a probe through the floor of the sinus into the ducts, owing to a valve-like arrangement there, no doubt led anatomists to believe the sinus pocularis to be a blind sac and the openings on the sides of the vera to be the terminations of the two ejaculatory ducts, but indeed the actual anatomic relations are found to be just the reverse. The mucous membrane of the sinus pocularis is, it must be borne in mind, continuous with both ducts, both seminal vesicles and with the vasa deferentia, as well as with the entire urethra, cavity of the bladder and ureters. It is certainly, in the light of careful anatomic and physio-



FIG. 4.—Under surface of prostate and bladder, showing anatomical relations of the vasa and seminal glands as they enter the base of the prostate to reach the ejaculatory ducts. Section of peritoneum illustrating the depth to which it is reflected downwards is left *in situ*.

logical study of the vera montanum, only a mere fanciful vision of the imagination to look upon the sinus pocularis as the homologue of the uterus.

The student of anatomy has always found it difficult to fix in his mind the text-book description of the anatomy of the prostatic portion of the urethra. This confusion is due largely to the fact that names have been given to the different parts because (in most instances) of their fancied

resemblance to other objects. For example: *Caput Gallinaginus*, *Caput Galli*, *Caput Gallinaceum*, *Crete Urethrale Hahnenkopf*, *Schnepfenkopf*, *Samenhuegel*, *Christa Urethra*, *Colliculus Seminalis* and *Veru Montanum*—names which have all been given by the text-books to the bundles of muscular fibers which reach from one end of the prostate to the other upon the floor of this portion of the urethra. The muscular fibers of which this prominence is chiefly formed extend or have their origin in the walls of the bladder, and are therefore capable of exercising special part in the functions of the genito-urinary mechanism. Upon the summit of this muscular eminence may be seen a somewhat puckered opening, which leads to the *sinus pocularis*. The mucous membrane appears to be arranged in folds as it dips into the sinus, and



FIG. 5.—Illustration showing normal relations of urethra to prostate and vesical orifice of urethra to floor of bladder.

(fancifully) the opening resembles the mouth of the uterus, and hence is supposed to be the homologue of the uterus and has, in consequence, received the following names: *Utricle*, *Uterus of the Prostatic Urethra*, *Uterus Masculinus*, *Sinus Pocularis*, etc., no office ever having been assigned to this uterus. Even to one who is willing to contemplate this male uterus in the light of a mere vagary, it is strange that it never occurred to him that nature had pre-empted a rather hampered spot to display womanly proclivities in man.

Broadly speaking, the gross anatomy of the parts ordinarily involved in urinary obstruction includes the parts to which we have briefly referred. If the teaching is to be accepted as correct that enlargement of the prostate is the cause of urinary obstruction in all cases, then the conclusion must be assumed that obstructive symptoms would inevitably attend the presence of the largest prostates found; as surprising as it may seem, this rule was found to be working in the opposite way in the

great majority of the cases investigated. Of my two hundred specimens the largest prostate found gave the least trouble to the patient. This case may be cited as that of Henry Brueggeman, and will serve as a strong illustration of the incorrectness of the teachings at the present time. I shall give a brief sketch of the clinical history and post-mortem findings in this case.

Henry Brueggeman, aged thirty-six, a stockily built German, weighing on admission to the hospital about two hundred pounds, yet but about five feet six inches tall. This man was admitted to the hospital one year ago last October with the symptoms of a small clot in his brain. He remained about six weeks, at the end of which time he left the hospital with, however, a characteristic paretic condition of the right arm and leg, but feeling well and able to walk to the street car. In March last he returned to the hospital complaining that he was troubled with dizzy sensations and requested to be taken into the hospital for rest and treatment. In a day or two after admission, while shuffling along through the hall, he fell to the floor and died next day without regaining consciousness. At the autopsy a large clot was found at the base of the brain and by mere accident the prostate was examined and found to be of enormous proportions with a very large projection of the interfissural segment into the cavity of the bladder. This man never at any time complained of urinary trouble.

Another case illustrating the same conditions is that of Thornton Stewart, negro, aged seventy-five, who died November 21, 1903, resident of St. Louis forty years. He was admitted to the hospital November 20th with a large clot in his bladder. This immense clot was turned out as promptly as preparations could be made, through a suprapubic opening, by Dr. John Young Brown, surgeon in charge at the City Hospital. At the autopsy the prostate in this case was found to be nearly the size of that in the case of Henry Brueggeman, with a much larger projection of the interfissural segment. The hemorrhage, it was seen, had occurred at the top of this intravesical projection and it was presumed that it was the result of attempts to introduce a sound, and while death resulted from the shock of this hemorrhage and its consequent effects the old negro had never suffered in any way from urinary obstruction. The colored woman with whom he boarded, at Twentieth and St. Charles streets, was interviewed soon after the death of the patient and she was positive that "Uncle Thornton" never had any complaints whatever except at long intervals when he suffered from attacks of rheumatism. This woman, by name Jennie Pate, left the old negro in charge of the house on November 7th and he was then cheerful and feeling well. Thornton had been a fireman on the river between St. Louis and New Orleans. His last trip was made several weeks before, he having given up the occupation in consequence of rheumatism in his legs. He was born in New Orleans.

In illustrating the effects of age upon urinary obstruction, I wish at this time to refer to the case of William Rhoades, a negro, who was born to slavery in South Carolina, in 1798; a slave for more than sixty years and a free resident of St. Louis for more than forty years, who died at the City Hospital December 5th, 1903. Rhoades entered the hospital for treatment for rheumatism July 19th last. Death was the result of senile debility. As it may be seen, this patient had attained the age of 105 years and lived through all those years without symptoms of urinary obstruction. In speaking of his family history Rhoades said he had used whiskey until twenty years ago, when he reformed. His father, he said, was shot by a patrol in slave times, a sister was whipped to death by an overseer, and a brother escaping from the slave quarters wandered in the South Carolina swamps until he contracted cholera and died.

The student in prostatic pathology, I am sure, would be able to find much valuable and instructive information in the study of the clinical histories and pathological findings in these three cases:

The prostate, discovered by mere accident, in the case of Brueggeman, who was only thirty years of age, had attained the size of a man's fist, with an equally large-sized intravesical projection. These tumor masses quite filled up the cavity of the bladder, and yet, so far as is known, the patient never complained of obstructive symptoms. In my next contribution to this subject, when describing the mechanism of obstruction, I shall explain the reasons for the absence of urinary interference in such cases.

An enormously enlarged prostate was also found in the case of Thornton; and this old negro enjoyed good health, except now and again an attack of rheumatism, until two days before death. What might have been simply a spontaneous hemorrhage which completely filled the cavity of the bladder, resulted in his death. Certainly here were "prostatic enlargements to a pathological degree," and yet producing no symptoms.

There were no marked pathologic changes observed in the bladder in the case of Rhoades, the patient who had attained the ripe old age of 105 years, except the plica ureterica had encroached somewhat upon the lumen of the vesical opening to the urethra, but aside from obstinate "dribbling" attending the act of micturition he was not otherwise a sufferer from the urinary function.

These cases teach important lessons in many respects, and especially in the case of Brueggeman as to age, and in Thornton's case as it relates to the absence of symptoms, and, too, the enlargement of the prostate in the negro race, and in the case of Rhoades as to the showing of the prostate in the very old. I conclude that there may be stranger things disclosed under the limelight of the dead house than are ever dreamt of in the philosophy of the routine prostatectomist.

612 North Taylor Ave.

[NOTE.—The histology of the genito-urinary organs, microscopic pathological anatomy of the hypertrophied prostate gland, together with other practical phases of the subject, including the description of a sensible surgical method for the relief of all forms of urinary obstruction and a large number of illustrations will be published in a later issue of this journal.]

RADIOTHERAPY IN THE TREATMENT OF ACNE VULGARIS.

BY MARTIN F. ENGMAN, M. D., St. Louis, Mo.

There is no group of diseases more difficult to successfully handle than those conditions included under the term acne vulgaris. No doubt several distinct pathological entities are classed under this term. Through the work of Unna, Hodara, Sabouraud and Gilchrist much light has been shed upon the pathology of this group, yet much additional study is necessary to explain many of its clinical and pathological features. Whatever the underlying etiological factors may be in the production of the disease, whether it be due primarily to intestinal derangements, dilated stomach, age, sex, menstrual or sexual conditions, there is no doubt that to produce immediate or even remote therapeutic success, our efforts must be directed to the local destruction or attenuation of certain organisms. From the work of the authors just mentioned we know that there are found in these lesions three forms of micro-organisms: the acne bacillus of Unna, Hodara and myself (micro-bacillus of Sabouraud); some form of the staphylococcus; and the bottle bacillus of Unna (Malassen).

Since 1893, while working with Unna, upon the acne and bottle bacilli, I have made it a routine procedure to examine, when possible, smears from all cases of acne. Several times I have attempted to grow the acne bacillus, but have generally obtained a weak, attenuated growth. However, since planting the little "plug" which can be squeezed from the deep-seated indurated lesions, as suggested by Gilchrist, I have had better success and can confirm his observations relating to the morphology of the organism. It has been my experience that the pus from all indurated acne lesions contains the three organisms: acne bacillus, bottle bacillus and staphylococcus. In many smears myriads of bottle bacilli are found. In the papular forms of acne in which there is only slight pus formation, staphylococci are generally more abundant. In the very superficial, follicular types associated with rosacea, the staphylococcus aureus is usually in pure culture. In the superficial flat lesions, unaccompanied by marked redness or inflammation, which occur about the sides of the face, the acne bacillus occurs almost in pure culture. From long experience in the study of the bacteriology of acne lesions upon the face, by smears and cultures, I feel that I can predict the flora of the lesion from its clinical appearance. It is my regret that careful statistical

notes were not made upon this study except in the last two years. The writer cannot combat the always ready and usual argument of "soil" in questions of infection, yet he feels convinced from his studies, that the van of therapeutic measures should be directed to the local destruction of the organisms existing in such quantities, in any disease of the skin, as they do in the polymorphic lesions of acne vulgaris. He also feels convinced that antiseptic care should be exerted in the prevention of the disease and used long after its apparent cure. "Soil" is very difficult or almost impossible to change, as its characters rest upon such obscure foundations, but infection, by proper care can often be prevented, as its factors are tangible and not so difficult to understand.

The treatment of acne has not varied much in the last twenty-five or thirty years. It has mainly consisted of both general and local measures, the latter always including more or less powerful reducing and antiparasitic remedies, in the form of lotions, soaps, powders, pastes or salves. Most of these formulæ contain sulphur, mercury and some astringent. Through the action of the reducing agent scaling of the epidermis is induced which is brought about by a certain amount of local inflammation: leucocytosis, with slight microscopic serous effusion or serotoxis. It is hardly probable that these antiparasitic or reducing agents act upon the organisms, in the deeper acne lesions, directly and by that means destroy them; it is more plausible to attribute this action to the phagocytosis which these remedies induce—*i. e.*, the reactionary inflammation. None of the various drugs used for acne act as specifics. The intensity or degree of their action is dependent upon the per cent. in which they are used, therefore, the resultant inflammation and therapeutic effect is proportionate to the strength used. The rapid scaling methods of Unna, Lassar and others often produce quite acute and active inflammation, and, therefore, a more rapid beneficial result or resolution of the acne, than the slower methods, in which weaker strengths of the reducing agents are employed. The internal or general measures used in the treatment of acne are directed to building up the resistance of the patient—that is, to correct any condition which is apparent or could interfere in his general well-being. No internal remedy is vouched for as a specific in this disease.

Therefore, in the management of acne a local leucocytosis is the principal and first step to be attained. Since the introduction of the x-rays into medicine, it has been demonstrated by various observers that through their influence a local leucocytosis can be obtained, the degree of the leucocytosis being dependent upon the various factors which enter into the state and management of the energized tube. Therefore, in the x-rays we have a remedy which produces a local leucocytosis over which we have, to a certain extent, more control than that produced by the various reducing agents so commonly used; and, without the usual discomfort to the patient, which the latter cause by the grease and the unsightly

sealing or inflammation which follows their use. This latter fact is also decidedly in favor of the rays from a cosmetic standpoint; furthermore, the influence of the rays is continuous, and the business or social habits of the patient cannot interfere in the result. No matter what the disease, the patient is, when ambulatory, not infrequently the greatest obstacle in its proper management, in his not following the directions given him. In acne is this particularly so, as the disease occurs in the young and thoughtless, therefore any remedy which can be as easily used as the x-rays and whose effects are continuous is doubly beneficial, for it is only necessary to expose the diseased area to the rays at certain definite intervals to obtain a leucocytosis or an effect sufficient to obtain a result. This point appeals to the writer as of great advantage in these cases, as it is not necessary to rely upon the patient's judgment, habits, promptness or thoroughness in the application of the treatment.

Since the month of May, 1902, the writer has made over seven thousand therapeutic x-ray exposures. Included in the cases thus treated are forty-eight cases of acne vulgaris. As this number is sufficient to enable one to draw some conclusions, he feels justified in reporting his results with this form of therapy in the treatment of this disease. The literature upon radiotherapy in acne is now quite voluminous, and there is no doubt that the remedy is at present widely used in the treatment of this condition. It was through the early writings of Pusey and of Zeisler that the writer began to thus employ the agent. At first he used the rays very tentatively and with great trepidation, as the fear of burning the face of a young girl was a perfect nightmare. However, through repeated use, sufficient confidence was established to enable him to use the remedy in sufficient dosage to obtain beneficial results. For a long time this fear of an untoward effect obscured the judgment of the operator to such an extent that he was in despair and was on the point of abandoning the method as useless, as his results at that time were valueless. But after gaining more confidence in the use of the tubes and machine, and through careful study of x-ray literature, especially that pertaining to productions of "burns" and dermatitis, more potent doses were given with surprisingly (to the writer) beneficial results. The treatment of acne vulgaris by any method is, in the writer's experience, a long and tedious procedure. Relapse is the rule, and disgust and loss of confidence, by the patient, the consequence. It is theoretically possible to permanently cure acne, but practically impossible, as the patient is a human being with a mind and a will of his own. He cannot be put in a position where relapses can be prevented; therefore the best we can do is to clear up an attack, and try and prevent recurrence by proper measures and advice. To do this, his general condition must be put at the highest point of health and resistance possible through the installation of those measures, hygienic and

medicinal, which are obviously indicated. This is always necessary in all diseases, no matter what the etiology or the pathology of the disease may be—whether it be caused by the local or general invasion of some micro-organism, or by some vague metabolic condition. Therefore, it is of prime importance to look after the general health in acne, whether the constipation, headache, anemia, etc., be due to the disease (local infection) or the disease (acne) to any one or a combination of the above symptoms.

We will admit the great value of general treatment, including diet and hygienic measures, in the management of acne. Such measures are important and often of great assistance, yet too much dependence must not be placed upon them. *I have never yet seen an acne markedly improve by general measures alone.* There are a few rare instances when an attack will disappear during a vacation at the sea-shore or in the country, when the patient is constantly out-of-doors and is exposed to the bright sunshine of summer. But the question occurs to one, how much of this improvement of the local condition is due to the action of the actinic rays of the sun, the leucocytosis of the sunburn? Never yet, except in these cases of sunburn, have I seen an acne vulgaris disappear without local treatment, and repeatedly have I tried internal and hygienic treatment *alone*. In the consideration of such cases of cure it is well to remember that the age of immunity varies with the individual, and, after a certain age, acne tends to get well and an immunity is established. One such case of mine, at the age of twenty-two years, got permanently well under a boric acid lotion and arsenic, for which I received much credit; yet I am positive that she had reached her immune time, and that the treatment had little to do with her cure.

As I have seen no marked benefit from general treatment *alone*, and as I have found very marked improvement from well-directed *local* measures *only*, I therefore naturally place the greatest stress and importance upon this point. I may even go further and say that I have observed marked general improvement in the general condition of several patients, in their anemia, lassitude, headache and constipation, after eradicating a bad acne solely by local means. This I have seen several times, and the observation to me is of great interest in considering the etiology of the acne syndrome. It is, however, possible that the removal of a conspicuous and long-standing eruption from the face of a young girl may relieve her mental status to such an extent that her general condition of well-being is thereby established, and the general improvement may then not be wholly, in such a case, attributable to the removal of the organism of the acne and its toxins.

The local treatment of acne differs as to the type of disease present. In the very superficial types, with only slight pus formation and a few comedones, only mild parasitocides or reducing agents are necessary with soaps and lavage. In such cases the lesions are so superficial that local

applications can act directly upon the pathological condition. Sealing by Unna's or Lassar's method is a quick and efficacious means. In such cases Fox's method of curetting the face frequently is excellent; in fact, in my hands it has proved a more rapid and beneficial method than that of radiotherapy in these very superficial cases.

[TO BE CONTINUED.]

A CASE OF ABDOMINAL ANEURISM.

BY W. J. CALVERT, M. D., of Columbia, Mo.

OF THE UNIVERSITY OF MISSOURI.

Aneurisms of the lower portion of the abdominal aorta are of sufficient rarity to merit a brief description of their clinical manifestations, with autopsy records.

T. C., male, white, aged thirty-five years, American, has been a resident of St. Louis for six or seven years, during which time he enjoyed fairly good health. Family history: negative. Past history: patient had none of the diseases of childhood (?); gonorrhœa at twenty-six, and three attacks of sciatica within the past two years. Syphilis denied. In recent years patient has suffered from constipation, requiring a daily laxative. History otherwise negative.

Present illness began Tuesday morning, May 26, 1903, with sharp sticking pains in left leg, which radiated to back, hips and lower left abdomen, most marked in posterior portion of thigh, simulating sciatica. On Thursday, May 28th, at about 3 A. M., I was called to relieve the pain due to what was then thought to be sciatica. No physical examination was made, as the patient was suffering intensely. One-eighth grain of morphine was given hypodermatically.

On Friday, May 29th, at about 1 A. M., I was again called to relieve the patient. This time, notwithstanding the intense pain, a physical examination was made with the following results: Temperature, 102°; patient bathed in cold perspiration; face rather pale; eyelids widely separated; pupils slightly dilated; anxious expression; tongue heavily coated white; pulse, 110; respiration superficial (thoracic) and somewhat labored, 30 per minute; lungs normal; heart normal, no murmurs detected.

Abdomen.—Upper portion somewhat lower than costal margin, and flat; lower portion, from about an inch above umbilicus, slightly higher than upper portion. Inspection showed no pulsation. Palpation revealed a doughy mass in left hypochondriac region, about two and one-half inches in diameter, which (apparently) could be followed along the path of the descending colon into the pelvis. Through this mass, especially in the upper portion, pulsation of the abdominal aorta could be

felt. Marked muscular rigidity over entire left side of abdomen. Light percussion gave tympanitic note over entire right side and on left side, except over the mass in hypochondriac region, and from anterior axillary line into back. Auscultation revealed nothing. External genitals and lower extremities negative. Pressure over sciatic nerve painless. Bowels had not moved for three days; one or two involuntary passages of urine noted.

In the light of a temperature of 102° , pulse 110, anxious expression, rapid superficial respiration, muscular rigidity on left side, doughy

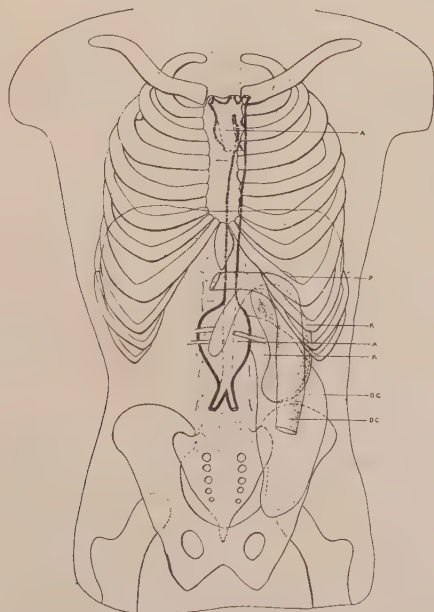


FIG. 1. Shows anterior view. A, aorta with dilatation and aneurism; P, pancreas; K, left kidney; B C, blood cavity extending almost to Poupart's ligament; D C, descending colon.

tumor mass apparently along the descending colon, chronic constipation, a diagnosis of fecal impaction, with perhaps some accompanying inflammation of surrounding peritoneum, was made.

At 10 A. M. on Friday, May 29th, patient had not improved. Tumor mass and rigidity about the same; temperature, 102° ; pulse, 120; respiration, 30. Anticipating surgical procedure, Dr. Mudd was called in consultation, when the previous diagnosis was thought most probable. Patient was removed to St. Luke's Hospital at 5 P. M., May 29th.

On admission temperature was 101° ; pulse, 132; respiration, 32. At 9 P. M. temperature was 102° ; pulse, 120; respiration, 30; patient

slightly nauseated. During the night temperature, pulse and respiration remained about the same as at 9 P. M.

Up to this time treatment consisted of morphine to relieve pain, calomel and soda and magnesium sulphate, and repeated enemas to clear the bowels and colon. Most of the enemas returned heavily laden with brownish-black, lumpy fecal matter.

During the day, May 30th, condition remained about the same as previously noted. Late in the afternoon the first particles of yellowish fecal matter were noted; temperature had dropped to 100° ; pulse, 94; respiration, 26; muscular rigidity had disappeared. At this time the tumor mass could be easily palpated. Location, in left hypochondriac region just free of margin of ribs, was firmly attached to posterior abdominal wall, did not move with respiration, dome-shaped, surface smooth, consistency hard, transmitted aortic impulse. It was thought that the colon could be felt over the mass. In left lumbar region considerable subcutaneous edema and slight pulsation were noted. Pulsation seemed transmitted. The doughy mass extending into the pelvis had almost entirely disappeared. Percussion revealed nothing new, and auscultation was negative. Pulse in both legs regular. Total quantity of urine not taken. Sample, dark-red color, contained numerous shreds from an old urethritis. Microscopic examination revealed a few pus, an occasional kidney and numerous bladder cells, mucous cylindroids. A slight amount of albumen, but no sugar, was noted. Blood-count showed 12,000 leucocytes per centimeter.

The question of diagnosis was at this time uncertain. The onset of the attack, presence of anxious expression, fever 102° , pulse 110 to 130, respiration 26 to 30, intense muscular rigidity, pain over left abdomen on pressure, condition of urine and blood, in the light of a history of chronic constipation, looked very much like fecal impaction with peritonitis or abscess formation which had extended to the posterior wall. From location, shape, size and consistency of tumor-mass, no particular organ was suggested.

As the condition of the patient had improved it was decided to await developments. When the patient was examined about 11:00 A. M. Sunday, May 31, the tumor extending along the course of the colon into the pelvis had returned. Temperature, 102° ; pulse, 130; respiration, 30. Paroxysms of pain were severe and frequent. Heaving pulsations in lumbar region were present; no murmurs. Up to this time save an occasional involuntary passage of urine and pain, no nervous manifestations had been observed. Patient now complained of some pain along left cord.

At this time an abdominal aneurism was suggested by the reappearance of the tumor and the heaving impulse. No aneurismal tumor could be detected. During the afternoon of 31st, patient was slightly delirious. During June 1st a slight paralysis of left leg was noted by

Dr. Clopton. Patient became unconscious and died at 12:20 A. M. June 2d.

Note from autopsy: Ascending portion of arch of aorta dilated, beginning of a tubular aneurism. On removing the intestines a large tumor mass was seen in the left side of vertebral column. This mass was composed of a part of the duodenum, adherent to right side of left kidney; over the upper portion the pancreas passed from upper left downward toward right side, quite firmly fixed; the larger portion of the mass was formed by the left kidney which was pushed forward and in-

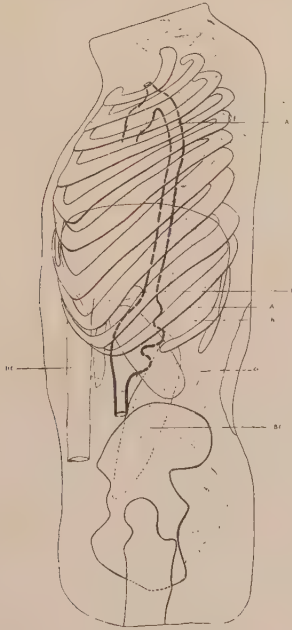


FIG. 2. Shows view of left side; letters same as in figure 1. O, edema in lumbar region. In this figure B C should be shown slightly more posterior to indicate how the kidney was pushed forward; at the same time it must be remembered that at this elevation the cavity was very near the vertebral column.

ward, the upper end more prominent; below and to the left of kidney the posterior wall of peritoneal cavity was pushed forward and on pressure felt doughy. On removing the diaphragm an aortic aneurism firmly attached to and covering the anterior portions of the bodies of the first, second and a portion of the third lumbar vertebræ was seen projecting one and one-half inches above the vertebral column. On removing the aorta an intense arterio-sclerosis was found throughout its course. The abdominal aneurism was firmly attached to the vertebræ and the posterior portion of the wall of the aneurism together with the greater portions of the bodies of the first, second and third lumbar ver-

tebræ had been absorbed. Through the body of the second lumbar vertebra the aneurism had ruptured into the muscles in the left side and the blood had burrowed into the retroperitoneal and muscular tissue as far as the brim of the pelvis. The spinal canal was not involved. Sclerosis of liver, enlarged spleen and sclerotic kidneys were found.

Judging from the relative size of the aneurism and the origin of the renal arteries from its anterior wall, the aneurism began on a level with the renal arteries and grew posterior, leaving the vessels springing from the anterior and lateral walls in their normal relationship. The pressure exerted on the left renal artery by this forward movement of the aortic wall caused the upper end of the kidney to rotate forward, toward the right; the forward movement of the kidney by the formation of the blood cavity sufficed to give it the prominence above noted. The shape of the kidney was masked by a large amount of areolar tissue, the pancreas and large gut which passed from above downward along a vertical diameter of the mass. The retroperitoneal blood cavity extended from the upper lumbar vertebræ through the psoas muscle almost to Poupart's ligament and varied in width from a few mm. to the width of the retroperitoneal tissue, and in places was one and one-half inches deep in antero-posterior direction. Tissues in all directions were infiltrated with blood.

The tumor mass felt in upper portion of abdomen was composed of the upper end of the left kidney, pancreas and a part of the intestines, consequently was misleading in that the shape of the kidney was masked, tumor had no expansile character and transmitted the aortic impulse. The pulsation felt in the lumbar region was similar to that felt in the kidney, probably on account of the circuitous connection of the blood cavity with the aorta, until Sunday and about thirty-six hours before death, when an aneurism was first seriously considered. The rapid pulse and respiration were undoubtedly caused by the loss of blood in the retroperitoneal region and pain, while the changes going on in the extravasated blood and neighboring tissues produced the fever.

Retrospective.—In view of the extensive aortic arterio-sclerosis and cirrhosis of the liver it is most probable that at the age of twenty-six the patient received a double infection, syphilis and gonorrhea. The onset of terminal sickness is of interest in that it was preceded, within two years, by three attacks of sciatica, and began as sciatica. True, the patient had pain in lower left abdominal region, but this seemed secondary to the sciatica, as he called it. Two days after onset the pain was transferred to abdominal region and radiated to leg. It has been a question in my mind whether or not the patient was mistaken regarding the real seat of pain.

The involuntary passage of urine could have been produced by any tumor or inflammatory process involving the nerves. Absolute absence

of pain in left cord or testicle until one day before death is worthy of note. At no time did pressure on the spinous processes produce pain.

When the unmistakable transmitted pulsations of the tumor mass were first observed, an aneurism was suggested, but repeated examinations failed to reveal an aneurismal tumor. Even with the abdominal cavity opened the aneurismal tumor could not be positively identified until considerable tissue had been removed. This obscurity was due to the slight elevation of the anterior wall of aneurism above the normal level of the anterior wall of the aorta, the firm adhesion of the wall of the aneurism to the vertebræ and the overlying structures. About three-fourths of the body of the second lumbar vertebra had been corroded without seriously interfering with the patient's activity, as he performed all of his duties as a reporter on one of the large daily papers without difficulty until six or seven days before death.

Aneurisms on the lower portion of the abdominal aorta are very rare. Schroetter¹ records out of 19,300 autopsies, 220 aneurisms, three of which were in the abdominal aorta. In the anatomical museum at Netley, Wille² found twelve abdominal aneurisms among 110 specimens.

Abdominal aneurisms are most frequently located about the origin of the celiac artery, and often extend through the diaphragm, affecting a portion of the lower thoracic aorta; less frequently, they arise about the origin of the superior mesenteric artery, leaving the lower portion of the abdominal aorta as the rarest seat of aortic aneurisms.

The special points of interest in the case are three previous attacks of sciatica, terminal illness initiated by an apparent sciatica which rapidly assumed the characteristics of fecal impaction with peritoneal involvement, definite signs of aneurism absent until two days before death.

Anomaly.—Right kidney was supplied by two arteries.

1. Schroetter. *Erkrankungen d. Gefasse. Specielle Pathologie. Therapie.* Nothnagel, 1901.
2. *l. c.*

CLINICAL REPORT.

RUPTURE OF THE QUADRICEPS EXTENSOR TENDON.

BY NATHANIEL ALLISON, M. D., of St. Louis, Mo.

To the reports of Dr. Stetson,¹ of Greenfield, Mass., and of Dr. Ronginsky,² of New York, I wish to add another case of this rather rare injury.

S., man of heavy build, while mounting a stair which was not guarded by a rail, fell from the fourth step to the floor below. This accident occurred early in November, 1903. He was somewhat stunned by the fall, was unable to rise and thought he had broken his right leg, as he felt it give way and heard a distinct crack as he struck the floor. He was placed in bed with his leg in a flexed position. I was called to see him within an hour after the injury.

Examination showed the following facts: Marked swelling of the right knee; on extending the leg on the thigh a distinct hollow appeared just above the patella; this hollow would easily admit one finger and through it the condyles of the femur could be felt; the patella was drawn downward and its upper edge was perfectly evident. An attempt at extension on the patient's part was followed by no motion of the leg. There was no sign of injury to the bones. I advised immediate operation, to which the patient would not agree.

The leg was fully extended on the thigh, by the use of broad adhesive straps applied in a crossed manner, the patella was secured in a position as high as possible, coaptation splints were placed on the anterior surface of the thigh to limit the action of the quadriceps, and the whole extremity was placed in a plaster of Paris bandage.

After two weeks this bandage was removed, the gap was no longer visible or palpable. Any attempt at motion was carefully guarded against, another bandage was applied similar to the first with the exception of the coaptation splints.

After four weeks of recumbency the patient was allowed crutches; these he used for two weeks more, then all bandages were removed again. There was some thickening of the tendon and the union seemed perfect. The patient was able to extend his leg quite freely but he said he felt a sense of weakness in his knee. The knee was bandaged and the patient allowed to go about with a cane for support; he was cautioned against sudden or violent motion. At the present time he has full use of his limb.

1. Herbert G. Stetson. "Rupture of the Quadriceps Extensor Femoris Muscle." Boston Medical and Surgical Journal, August 13, 1903.

2. A. J. Ronginsky. "A Case of Rupture of the Quadriceps Extensor Femoris Muscle." New York Medical Journal, November 14, 1903.

EDITORIAL COMMENT.

HOSPITAL INFECTIONS OF CHILDREN.

It is a common experience in hospital, to find that a child, admitted for some trivial complaint, contracts an infection in the wards, much worse than the original trouble. Broadly speaking, these hospital infections may be grouped into three classes: respiratory, gastro-intestinal and cutaneous. This subject has been carefully studied recently in the wards of Prof. Hutinel, at the "Enfants-Assistés," in Paris. It was found that nearly all young children, especially those admitted for chronic, afebrile conditions, showed a rise of temperature shortly after admission to the wards. Within a day or so a pharyngitis and amygdalitis of greater or less degree was almost the rule. The stronger children, with greater powers of resistance, soon recovered. In the weaker children, however, gastro-intestinal troubles supervened with great frequency. Careful bacteriological examination showed that the primary infection was, in many case, due to the streptococcus. In like manner, respiratory disturbances, leading only too often to bronchopneumonia, were very common, accompanied as is usually the case in hospital, with a very high mortality.

Mild skin affections, such as eczema and impetigo, which yield to treatment readily enough outside the hospital, are also apt to be much more serious in hospital. These cutaneous lesions, in hospital, offer ports of entry for pathogenic germs, and so generalized infection is not uncommon. One sign of this, even in mild cases, is the acute generalized adenopathy, which is so common.

In this connection the recent experiment of Weill, of Lyon, is of interest. He had all the bedlinen for his skin cases sterilized, and treated all the cases on strict aseptic and antiseptic principles. Surprisingly good results—in a hospital where these had been unknown before—were obtained.

The practical lesson to be drawn from these researches would seem to be that the number of children in any one hospital ward should be very small. Even though no contagious cases be admitted, every attempt should be made to enforce as rigid antisepsis as possible. Unfortunately, asepsis, *per se*, is often out of the question, but in modern hospitals much can be done in this direction, and the results to be obtained more than compensate for the necessary effort. In the Pavilion Pasteur of the Enfants-Assistés, for instance, which conforms in every detail of construction and management to the modern idea of hospital sanitation, most excellent results have been obtained. It has been shown that hospital infections in this ward are much less frequent, and when they do occur, much milder than in the rest of the hospital, although the class of patients admitted is alike all over the house.

KIDNEY TUBERCULOSIS.

The brilliant results obtained by surgical interference in kidney tuberculosis are prone to make us forget the medical and hygienic aspects and lead us to neglect the real surgical indications. It would be well, therefore, to stop and consider what is accomplished by surgery, which at best is only palliative. We must admit that we cannot ascertain definitely that the kidney lesion is primary, nor do we know that we remove or can remove the whole infected area; facts which are borne out by the number of cases which develop the disease in the "other kidney" after surgical intervention. These cases are too numerous to be exceptional. It is reasonably certain that some cases of urogenital tuberculosis, other than that of the kidney, do recover without operation, and since the refinement of our diagnostic acumen has led to the recognition of tuberculosis of the urinary system in a stage earlier, certainly, than in former years, we may expect more from hygienic treatment than in the past, and, especially, as the whole treatment of tubercular conditions has of late years given better results. In fact, we have learned that tuberculosis in its early stage is quite a curable disease, and that we may look for definite results from medical and hygienic treatment. It may not be unreasonable to assume that our improved means of diagnosis will enable us to recognize urogenital tuberculosis in its incipency, to differentiate those cases of kidney and ureteral disease which mimic bladder disease in their symptoms, to adopt appropriate medical and hygienic treatment, and thus reserve surgery only for those cases which come to us with distinct surgical indications, or in which medical and hygienic treatment after persistent use has failed. While the excellent showing made by Hunner in his article, "Tuberculosis of the Urinary System in Women" (*Johns Hopkins Hosp. Bul.*, January, 1904), from an observation of thirty-five operated cases, is encouraging, yet we must approach his conclusion that from this observation he considers the disease pre-eminently surgical, with a certain amount of reserve.

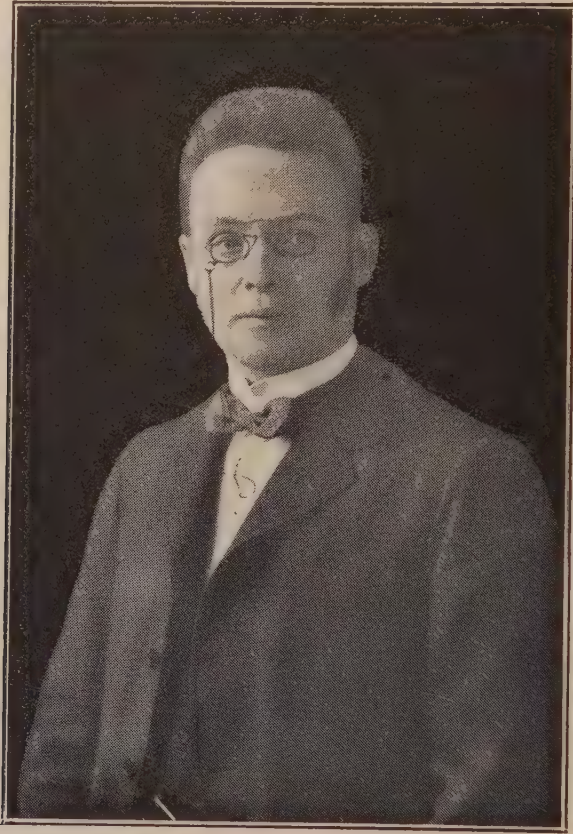
IN MEMORIAM.

Death, the relentless, has left an aching void in our ranks. An unusual man, in the very height of his creative ability, has been torn from our midst. The medical profession and the citizens of St. Louis stand sorrowing at the bier of one of their most worthy representatives, mourning the loss of a man who through his lofty character and upright striving for truth, had won for himself universal respect, highest personal esteem, and undying affection.

Edward Charles Runge was born of German parents in St. Petersburg, Russia, September 7, 1856. He received a careful education and graduated at the age of eighteen from the gymnasium. From boyhood, it was his ambition to become a physician, and he was just about to enter the medical college in St. Petersburg when his father died, leaving him the sole support of a mother and a family of brothers and sisters. This necessitated his giving up his plan of studying medicine and going into a mercantile position. When he arrived at the age of twenty-six years, his younger brothers and sisters having been educated and being able to care for themselves, he came to America and arrived in St. Louis in February, 1883. Here suffering severe deprivation, even starvation, he seized the first opportunity for earning an honest penny and became a baggageman at the Union Station. His linguistic talents made him useful as an interpreter and brought him to the notice of higher officials who assisted him in bettering his position. Thus he could at last realize his dream and entered the St. Louis Medical College. But through lack of funds he had to give up his studies, and only after securing a scholarship and a night position in a mercantile office was he enabled to conclude his first year in the college. The following summer he obtained a position as Pullman car conductor and in that way succeeded in completing the last two years of his medical course, graduating in 1890. After a few months spent as interne at the Female Hospital and three years of private practice, he was appointed superintendent of the City Insane Asylum and assumed his duties May 16, 1895. This position he held until within a few days of his death, February 10, 1904.

These short notes illustrate but one feature of a rare personality: an indomitable energy, an untiring will-power and a capacity for driving ahead against seemingly unsurmountable obstacles. Dr. Runge's philosophy, which he practiced as few men can, culminated in the axiom of the freedom of the will and of the personal liberty of body and soul. Freedom from all political and conventional restrictions was his foremost ideal, but freedom in the moral sense, never in the sense of the conqueror, who disregards the laws that protect the rights of others. For Right had become to him something more than a mere abstraction; whatever he considered right he did, regardless of personal conse-

quences. A strong nature such as his knows no middle path, and cannot go through life without making enemies; he was strong in his aversions, but always frank and open as a foe. When such a nature puts its strength into liking, the constancy of friendship is ideal, and there are many who will remember with sincerest gratitude this man who was always ready to lend a helping hand or to give his valuable advice.



He was surprisingly versatile; his literary interests were numerous, though such writings as echoed his philosophical views naturally claimed his chief attention. Of the classics, Schiller (in his dramas depicting the struggle for freedom) appealed to him most; of the modern authors, Maxim Gorki, a Russian, struck a sympathetic note. He had a fine understanding of music; and here again the gigantic struggles of Beethoven awoke his keenest sympathy and appreciation.

Russian hospitality is far-famed, and Dr. Runge well represented the land of his birth. These lines will recall to many of our readers the delightful evenings in the apartments of the Superintendent of the Insane Asylum, where the artistic surroundings bespoke the mental refinement of the owner, where good cheer and spirited discussion rivaled material comfort.

He loved his adopted country, and, filled with true public spirit, strove with all his might toward improving and beautifying his home city. But beautiful above all was his relation to those unfortunates entrusted to his care; they were not "insane patients"—they were his "guests," his "friends." His first and last thoughts were devoted to the betterment of their condition; they formed his family, for whom even financial sacrifices were gladly and eagerly made.

This man, who has spent his life in useful and unselfish work, is no longer among us. May this tribute paid his memory by a friend, erect a monument for him in the hearts of his fellow-citizens.

GEORGE GELLHORN.

This journal has been honored on two occasions by contributions from the pen of Dr. Runge, and attention was called to them editorially. In any consideration of his literary activity, and in any just estimation of his service to medicine and to the community in which he lived, these two papers should receive the first mention. Before Dr. Runge's asylum activity some papers on clinical neurology appeared from time to time. Of these, one on a case of syringomyelia, and another on a case of rumination, might be mentioned. Papers of this sort can, in the nature of things, show little more than careful study of symptoms and a just estimation of the work that has been done on the subject by others. So much was always apparent in these papers. With the first appearance of the annual reports the almost unique service of Dr. Runge as a medium between the public whom he served and the medical profession, who, in most instances, sent him the material for his work, began to be recognized. This recognition came slowly at first among the very ones to whom his labors ought to have meant most. Each year these annual reports grew in favor as they grew in power and in interest, until they came to be eagerly awaited for by physicians interested in the institutional treatment of the insane, and by laymen in other professions to whom all rightly-directed municipal effort was a matter of interest.

The story of a strong man's life is known, as a rule, to very few outside of his friends and intimates, and even these are often in the dark concerning the thing that lies nearest him. Dr. Runge has left behind him a record of his effort told in these annual reports which tell the

story in a more eloquent way than anything that can be said in this place. Those who will read these accounts in the light of a personal knowledge of the man can come very close to an unusually vital and stimulating personality.

The service that Dr. Runge has done for St. Louis especially, and for other municipalities with the same sort of problem in the care of the insane, may be known by considering the institution, the insane asylum, before and after he became superintendent. It was built originally to accommodate three hundred patients; there were no adequate means of making room for more, there was no equipment worthy of the name, and the traditions left behind were of the most antiquated and narrow. In eight years there were in the asylum at all times over seven hundred patients, and within the narrow limits which were imposed by the municipal powers the place had changed and had become the modern insane hospital. All this had been done, and no one but those who know can appreciate what this means, without any additional equipment that amounted to anything and without an increase in the medical or administrative body. This means that Dr. Runge's personality had so filled the institution he controlled that it reflected his own spirit in every one of the departments, and nowhere was this better shown than in the attitude of the patients themselves toward the superintendent and to the institution.

It is given to few men to leave behind them the story of their best effort in an enduring way. Those who have learned to know Dr. Runge, and the smaller number who were admitted to his closer friendship, may derive some comfort from the fact that the thing he loved most will live as a part of him. This is the sort of immortality of effort and method which would have appealed to him more than the traditional kind. The story of Dr. Runge's eight years there is a part of that institution's history, and the ideal established there will always be in the minds of those who seek for better things in city institutions.

SIDNEY I. SCHWAB.

MEDICAL AND SURGICAL PROGRESS.

INTERNAL MEDICINE.

IN CHARGE OF

JESSE S. MYER, M. D.

The Value of Antitoxin as a Prophylactic Measure Against Diphtheria.—ZUPPINGER (*Wiener Klinische Wochenschrift*, No. 2, 1904) publishes the favorable results of his investigations along this line, and reviews carefully the results obtained by other observers. The reports presented by the Italian and French representatives at the Congress of Hygiene at Brussels, are worthy of special mention. The Italian statistics included 14,967 prophylactic injections with 1.8 per cent. of diphtheria cases following. In this report great stress was placed upon the importance of educating the public to a full realization of the efficacy of the procedure. The time is propitious for looking to laws which will make the prophylactic measures compulsory. Before this can be done, however, steps must be taken to lower the price of the serum. Until this is done, it would hardly be possible to compel its use, as is done with vaccination. The serum should be more widely produced under strict sanitary supervision.

Too much must not be expected from the serum alone, but at the same time careful disinfection, and isolation must be observed.

The use of serum in diphtheria cases is at the same time an important prophylactic measure, in that it shortens the process and thus limits the time during which others may be exposed.

The French report at this meeting was presented by Professor Netter, who proclaimed the serum injections to be the most valuable prophylactic measure against diphtheria.

In France about 12,000 such injections had been made; 4,121 injections in the families where diphtheria existed; 2,000 in hospitals, and 5,300 children in hospitals who had not necessarily been exposed to the disease. Of these, 3,000 were suffering from measles, and 1,000 from scarlet fever.

The injections produced almost complete immunity for a period beginning twenty-four hours after the injection and lasting twenty-eight days. Children who developed diphtheria after the injections and after the period of immunity had very slight attacks.

Complications following the injections are rare and not of a serious nature. When abscesses develop it is due to a faulty technique. The prophylactic dose is 500 units. The injection should be applied to every child in the family in which the case exists, whether exposed or not.

In hospitals the injections must be given without delay when cases have developed there. The same may be said of schools. Systematic injections every four weeks in children hospitals prevent the possibility of cases arising there.

In the pavilion for measles the injections should be somewhat larger and the periods shorter.

The results published by authorities in Germany, Austria and Holland are quite as favorable to the procedure.

Statistics presented in the Italian report showed the percentage of immunities after the prophylactic injection in different countries to be the following: Italy, 98.2 per cent.; Austria, 98.45 per cent.; France, 97.57 per cent.; Germany, 96 per cent.; Norway, 98 per cent.; Holland, 98.61 per cent.; Russia, England and the United States, 99.1 per cent.

Notes on the Widal Reaction: (1) **The Question of Dilution.** (2) **The Influence of Jaundice.**—LIBMAN (*Medical News*, No. 5, 1904) believes that the dried specimens of blood are quite as satisfactory in the application of the Widal reaction as the serum, when properly taken. The drop should be a trifle larger than the head of a pin. If larger drops be taken, the specimen must be dried before the blood coagulates.

The writer has examined the blood in some 1,500 cases. Of these, 550 were cases of typhoid fever. In the 950 cases which were not typhoid fever, a Widal reaction was never reported positive even in a dilution of one to twenty. In all of these examinations dilutions of one to twenty and one to fifty were used (time limit, thirty minutes and one hour, respectively). In some instances a positive reaction was found in a dilution of one to fifty when the reaction was negative or not clearly positive in a dilution of one to twenty. In some cases this was probably due to the fact that in a dilution of one to twenty the lytic action of the serum is so marked that we cannot obtain a clear picture, in other cases to the pro-agglutinoid bodies (Shiga). Among 165 cases of typhoid fever, a co-incident positive reaction was found in dilutions of one to twenty, and in 127 cases in dilutions of one to fifty. In twelve cases the reaction was positive in a dilution of one to twenty, two days before it was positive in one to fifty. In some instances even sixteen days elapsed before the reaction became positive at one to fifty; and in eight cases which were positive in a dilution of one to twenty there was no reaction in a dilution of one to fifty during the time of observation of the patients in the hospital. From all these data it is evident that both of these dilutions should be used in the performance of the agglutination test.

The observations of the writer relative to jaundice and the Widal reaction lead him to the conclusion that jaundice *per se* does not cause a positive reaction. He points out the deficiencies in the cases cited in literature. While icteric serum may at times be possessed of a certain amount of agglutinating power, there is no definite proof that it can produce sufficient agglutination to interfere with the clinical diagnosis.

The Clinical Picture of Primary Endothelioma of the Pleura.—UNGER (*Wiener Klinische Wochenschrift*, No. 52, 1903) observed a case of primary endothelioma of the pleura from the inception of the clinical symptoms. The first symptoms were those of pain in the right half of the thorax, cough and dyspnea. The paroxysmal pains were often unendurable. There had existed at no time night-sweats, fever or ex-

pectoration. The nutrition was poor, and the patient rapidly lost weight and strength.

The physical examination showed an affection of the right pleura, viz., distention of the right half of the thorax, bulging of the intercostal spaces, and a lagging of that half of the chest on respiration. There was absolute dullness over almost the entire half of the thorax. The respiratory sounds, the vocal fremitus and the pectoriloquy were diminished. In spite of the severe cough there was no expectoration.

Upon making a puncture there was marked resistance to the passage of the needle through the pleura. Only 100 cc. of a hemorrhagic fluid were removed.

This train of symptoms pointed, not to a simple pleurisy with effusion and pleural thickening, nor to a hydrothorax, but to a primary tumor of the pleura. The autopsy corroborated the diagnosis. The infrequency of such cases renders the differential diagnosis very difficult and of great interest.

Purulent Pericarditis Secondary to Pneumonia, with Operation and Recovery.—SCOTT (*N. Y. Medical Journal*, January 30, 1904) reports a case of purulent pericarditis following pneumonia which recovered fully after operation. The features of interest in the case are the absence of leucocytosis during the pneumonia, and its development with the pericarditis; the absence of the pericardial friction, both before and after the pericardium was opened; the absence of fever (subnormal temperature), with pus in the pericardium, and the recovery of the patient without the physical signs of an adhesive pericarditis.

Leucocytosis is not always present in lobar pneumonia. In seventy-four cases observed by the writer, three presented leucocyte counts under 5000, and eleven were between 5000 and 10,000. Three died with leucocyte counts, respectively, of 4400, 4325 and 6000.

The absence of friction-sounds throughout the entire course, and absence of fever, have frequently been noted, and are of value in the diagnosis of septic pericarditis.

The Presence of Multiple *Tenia Saginata* in the Human.—RIEHL (*Muenchener Medicinische Wochenschrift*, No. 52, 1903).—Though the *tenia solium* has often been found in varying numbers in the intestinal tract, the *tenia saginata* has rarely been found so. The author finds about ten cases reported in the literature.

He presents a case in which two distinct specimens were found, following the use of the extract of male fern. Two doses were given on different days, and following each a worm was passed. The case is of interest not only because of the multiplicity of the parasites, but also because of the manner in which they were passed.

The Inhalation of Calcium Dust and Its Relationship to Tuberculosis of the Lungs.—RECKZEH (*Berliner Klinische Wochenschrift*, No. 45, 1903).—It has been maintained by some that the inhalation of calcium particles has a tendency to heal various lung troubles, and especially tuberculosis. This claim has been chiefly supported by the owners of calcium works, who state that those who work in an atmosphere containing these

particles are cured of lung troubles. The author treated a series of cases systematically with a view to determining the truth or falsity of this assertion. The patients were made to inhale air containing freshly-burned calcium dust for a certain period each day.

He not only found no improvement in these cases, but a decided aggravation of certain symptoms, such as the cough, headache, weakness, etc.

SURGERY.

IN CHARGE OF

WILLARD BARTLETT, M. D.

The Vagus Nerves and Peritonitis.—FRIEDLAENDER (*Lugenbeck's Archiv*, Band 72, Heft 1) made a series of most interesting animal experiments calculated to determine the influence which these nerves have in determining the symptoms of peritonitis. Where sepsis is the leading feature in a case it was found that the vagi have little to do with the matter; but here the chief role is played by the abdominal sympathetic system, these being the nerves which transmit pain stimuli. The vagi come especially into consideration in those cases where there is a lack of relation between temperature and pulse, as in strangulated hernias and the like. Here the increase in the pulse rate is directly due to stimulation of these nerves, and the author's experiments prove this beyond a doubt, because the pulse failed to increase in those animals whose vagi had been divided before the peripheral irritation was made. It is impossible in a short review to go into the many interesting details of the author's experiments.

Two Cases of Hernia in the Middle Line Below the Umbilicus.—RIVIERE (*Gazette des Hopitaux*, No. 7, 1904).—The author has found only one other similar case in the literature, consequently he feels that his two are worthy of report on account of their rarity. Both the patients were adults, and the first was cured by a simple suture of the wall in four layers. The second, however, suffered from strangulation and died after an intestinal resection. Both of these hernias occurred at what the author is pleased to term a very weak spot—that is, at the point where the semilunar line of Douglas crosses the linia alba.

A Case of Sarcoma of the Stomach.—ALESSANDRI (*Mitteilungen aus den Grenzgebieten*, Band 12, Heft 4).—This extremely unusual case was in a man of fifty-six years. The tumor was the size of a baby's head, and was diagnosed as one originating in the spleen. It was removed by resection of a piece of the stomach wall, which was about as large as a dollar. The patient did well for five days, then gradually declined and died on the 13th day of decided cerebral symptoms. A post-mortem failed to clear up the cause of death. Histological examination showed the tumor to be a spindle-celled sarcoma.

Excision of a Broncho-Cutaneous Fistula.—WALTHER (*Bull. et Mem. de la Soc. de Chir. de Paris*, Tome 30, No. 1).—The fistula in question followed a grippe pneumonia with abscess formation. At the operation the fistula was excised, the lung tissue sutured with catgut, and the chest wall with the same material. The skin was closed without drainage, and a perfect union secured. The patient gained rapidly in weight, his cough left him entirely, and when he was presented before the Paris Society he was in every particular a healthy individual.

Catgut Sterilization.—SALKINDSOHN (*Centralblatt fuer Chir.*, No. 3, 1904).—Having found the iodine sterilization of Block to be destructive to the catgut, the author uses a modification of the same which consists in a mixture of one part of tincture of iodine with fifteen parts of 50 per cent. alcohol. He claims that catgut so treated is perfectly sterile at the end of one week, and further that the method has the decided advantage of perfectly preserving the material for at least one year.

Revolver Wounds of the Stomach.—FORGUE and JEANBRAU (*Revue de Chirurgie*, September and November, 1903).—This subject is thoroughly investigated by our authors and the article is illustrated by seventeen cuts which show conclusively that an injury to the stomach, unassociated with a lesion of some other or several other viscera, is almost impossible. He relates a most interesting case. A man was shot from the anterior wall of the stomach, but there was no outlet in the posterior wall. The anterior wound was sutured and the patient did well for a time, when to the surprise of all concerned he suddenly developed a localized peritonitis and died. At the autopsy it was determined that the bullet had remained in the stomach and gradually caused a decubitus and perforation. The case is certainly unique enough to be worthy of a report. The technique of operation in these cases is well given, and thoroughly illustrated. There is also a compend of all of these cases which have been reported in the literature. The article is for the working surgeon one of extreme value.

Intestinal Perforation in Typhoid Fever.—HARTE and ASHHURST (*Annals of Surgery*, January, 1904).—This fifty-page article is probably the most exhaustive and comprehensive thing on the subject which has appeared up to date. The authors have had a most extensive personal experience, and this, coupled with a complete investigation of the literature, has rendered them able to place at our disposal an article which may be truly said to exhaust the subject. They have collected no less than 362 of these cases beside twenty-six others in which an exploratory operation was done. Some of their wise conclusions are the following: (1) that a general anesthetic should be used if the patient's condition permits it at all; (2) the operation must be rapid; (3) the best incision is in the right semilunar line. But the reviewer cannot quite agree with them upon the feasibility of suturing most or all cases. Drainage is necessary in every case.

The Transformation of a Lateral Gastro-Enterostomy Into the "Y" Form.—MONPROFIT (*Archives Provinciales de Chir.*, No. 11, 1903).—In a case afflicted by the secondary currents of vicious-circle the author remedied faulty mechanical conditions by simply cutting the proximal loop of the jejunum and in planting the upper portion into the distal loop below the point of former anastomosis. The idea worked out perfectly well, and the patient recovered his health. The author appends a number of reasons why the "Y" operation of Roux is preferable to all other forms of gastro-enterostomy. However, American surgeons will probably never subscribe to this on account of the technical difficulties and the time consumed in performing this last named operation.

The Anatomy and Pathology of the Biliary Passages and Pancreas.—BUENGNER (*Beitraege Zur. Klin. Chir.*, Band 69, Heft 1).—After examining fifty-eight specimens the author came to several anatomical conclusions: First, the common duct passes through pancreatic tissue in 95 per cent. of all cases. Second, this duct and the pancreatic duct unite in only one or two per cent. of cases. The duct of Wirsung divides in only ten per cent. of cases. Of course these anatomical deductions have a valuable bearing upon many points in clinical surgery.

THERAPEUTICS.

IN CHARGE OF

ALBERT E. TAUSSIG, M. D.

Concerning the Technique of Hypodermoclysis.—ADOLF WEBER (*Therap. Monatshefte*, January, 1904, p. 28).—While it may be admitted that the most efficient method of throwing large quantities of saline solution into the circulation is by the intravenous method, and while this method is simple enough when performed during an operation under general anesthesia or in a well-equipped hospital, still both the pain that accompanies the little operation and the surgical skill necessary for performing it in a cleanly fashion have prevented its widespread use in general practice. Wernitz, in an article abstracted in last year's INTERSTATE, advocates the more general use of enteroclysis. After very thoroughly washing out the rectum until the water runs out clear, a liter of normal saline solution is allowed to run slowly into the rectum in the course of an hour. This may be repeated several times daily. While this method has great merits, it requires a good deal of time, and is impossible where we have a relaxed anus or an irritable rectum. The chief drawback to hypodermic transfusion has been that only some 250 c.c. can be thrown under the skin at one spot, so that when we desire to administer several liters of saline solution daily, the patient's body soon becomes covered with puncture wounds. Weber makes an apparently very practical suggestion for the avoidance of this disagreeable feature. He uses a long strong needle attached to a fountain syringe. The apparatus having been filled with warm sterile salt solution, the needle is thrust hori-

zonally below the skin of the abdomen as far as it will go. After 250 c.c. have percolated into the subcutaneous tissue, the needle is nearly withdrawn, and then reinserted at an angle of 90° to its first direction and a second 250 c.c. introduced. This is repeated two more times, so that a litre may be injected with but one puncture.

A New Antitubercle Serum.—ALEXANDER MARMOREK (*Berl. Klin. Wochenschrift*, 1903, No. 48).—From the action upon the organism of tuberculin, Marmorek concludes that it does not represent the real toxin of the tubercle bacilli. When the tuberculin is injected into a consumptive, he believes it stimulates the bacilli to secrete a toxin, and it is this last that produces the reaction. This true tuberculous toxin is, however, not formed in any of the usual cultures of tubercle bacilli. Hitherto the so-called tuberculous anti-sera have been produced by the injection into animals of tuberculin or of other products of tuberculin cultures. They have led to the formation of sera that would neutralize the tuberculin or the other ordinary tubercle bacillus products, but since none of these represent the true tubercle toxin, it is not surprising that their anti-sera have had but little therapeutic value.

In order to obtain cultures that would produce this true toxin outside of the body, Marmorek made use of complicated cultural methods that in the main consist in the growing of young (primitive) tubercle bacilli on a "leucocytic" serum. The latter consists of the serum of calves that have received at least thirty injections of an emulsion of guinea-pig leucocytes. To make it better suited for the cultivation of tubercle bacilli, glycerin-bouillon is added to this serum. The toxin developed in this culture medium immunizes guinea-pigs actively against tuberculosis. When injected into horses, the toxin causes large and painful edemas, but after seven or eight months their serum contains substances that suffice for the preventive immunization of rabbits.

On the basis of these animal experiments Marmorek has during the past year used his serum for the treatment of tuberculous human beings. In meningitis the treatment was of no avail; in other tuberculous processes it seemed as if the result depended rather upon the duration than upon the extent of the morbid process. Without giving any clinical histories, Marmorek states that in advanced pulmonary phthisis, not only the general condition, but also the local process was favorably influenced. Surgical tuberculosis, after having been operated unsuccessfully, was caused to heal, the cheesy pus being absorbed, lymph glands reduced in size and obstinate fistulæ closed. In seven cases of exudative pleurisy, a rapid diminution of the exudate resulted in six cases. As regards the technique of the injections, relatively large amounts of serum are required. Repeated injections too are necessary, the smallest number being six or seven (lymph gland tuberculosis), and the greatest fifty-two. The serum caused no fever, nor any other reaction, local or general. Indeed, in cases without mixed infection it abolished the hectic fever, which therefore forms no contra-indication.

While Marmorek's own clinical observations are few in number, he announces that his serum has been tested by a number of clinicians, who have had encouraging results. The latter are to be published in the near future.

A Case of Aspirin Intoxication.—ERWIN THOMSON (*Therap. Monatshefte*, No. 1, 1904).—Johann Arju, æt. seventeen, came to the writer with a follicular tonsillitis. Having no one to care for him local treatment was not possible. External compresses were ordered and aspirin, gr. v. three times daily. Two days after the patient was found with fever, comatose, pharynx unchanged, eyelids greatly swollen, cheeks red and edematous and covered with yellow bullæ about half an inch in diameter. On opening one of the latter it was found full of clear serum. An indifferent ointment was prescribed for the face and the aspirin discontinued. The patient was not seen again for nearly a month. The face had healed without scars, but the entire scalp excepting the occipital region was bald, although on close observation a fine growth of hair indicated that the baldness would be temporary.

The writer believes that the production of bullæ and of an alopecia must be interpreted as an aspirin intoxication, although the dose, gr. v. (ten powders in three days), was certainly a moderate one. He adds, however, that the youth showed a stunted growth, suggesting an age of twelve rather than of seventeen years. The case shows that aspirin, however indispensable it may have become, should be administered only under the observation of the physician.

The Influence of Sodium Chloride Upon Gastric Digestion.—M. BONNIGER (*Muenchener Med. Wochenschr.*, No. 2, 1904).—That common salt influences gastric digestion has long been known. At first the belief was general that salt increased the acidity of gastric juice, but of late a considerable number of writers have shown the reverse to be the case. There has, however been much diversity of opinion as to how this diminution of acidity took place. Thus, Reichmann believes that it is chiefly due to transudation, whereas Schuele holds that the salt directly affects the secreting cells.

To clear up this question the writer observed the behavior of the gastric juice secreted by a dog with a gastric fistula, according to Pawlow. For the details of the findings the reader must be referred to the original article. In brief, it may be said that the result of the administration of salt was a very marked diminution of the gastric secretion with a corresponding diminution of the HCl secreted. Similar results were obtained with a healthy man: marked subacidity without increase in the total amount of gastric juice. These results disprove the theory of Reichmann, that the subacidity following the administration of common salt is due merely to a dilution of the gastric juice by means of transudation. *A priori* then common salt would seem to be indicated in the treatment of hyperacidity. Whether the ill effects of large doses of salt—interference with gastric motility and with proteid digestion—suffice to counterbalance its good effects in this disease can only be settled by clinical observation.

Some Formulæ for the Palliative Treatment of Hemorrhoids (*Zentralbl. f. d. ges. Therapie*, No. 1, 1094):

1. $\mathcal{R}$ Opii pur..... 0.06
 Plumb. acet.,
 Axung. benzoat..... aa 0.2
 Butyr. cacao..... 1.5
 M. f. suppos. D. tal. suppos. No. x.
 S.—One suppository to be inserted morning and evening.
2. $\mathcal{R}$ Chloroformii..... 2.0
 Vitell. ovi unius,
 Aq. font..... ad 100.0
 M. f. emuls. D. S. As an enema.
3. $\mathcal{R}$ Bismuth iod. resorcinosulfon..... 0.6
 Zinc. oxide..... 0.5
 Balsam. peruv..... 0.15
 Cerae alb..... 0.2
 Butyr. cacao..... 1.5
 M. f. suppos. D. tal. suppos. No. x.
 S.—Insert one suppository morning and evening.
4. $\mathcal{R}$ Mentholi..... 1.0
 Cocain phenyl..... 2.0
 Extr. fluid. secal. cornut.,
 Extr. fluid. hamamel. virgin..... aa 15.0
 M. D. S. Apply locally.
5. $\mathcal{R}$ Alphaeucaini..... 0.03
 Morph. mur..... 0.01
 Antipyrini..... 0.5
 Aq. destill..... 20.0
 M. D. S. Inject into the rectum.
6. $\mathcal{R}$ Extr. secal. cornut..... 0.2
 Morph. mur..... 0.01
 Butyr. cacao..... 1.5
 M. f. suppos. D. tal. suppos. No. x.
 S.—Insert one suppository morning and evening.
7. $\mathcal{R}$ Alumin. borotannic..... 5.0
 Liqu. plumb. subacet..... 1.0
 Ol. olivæ..... 2.0
 Lanolini..... 40.0
 D. S. Pile salve.

PATHOLOGY AND BACTERIOLOGY.

IN CHARGE OF

CARL FISCH, M. D.

Phthisiogenesis and Fight Against Tuberculosis.—E. v. BEHRING (*Deutsch. Medic. Woch.*, 1904, No. 6).

The Principles of Phthisiogenesis in Man and Animal.—E. v. BEHRING (*Berl. Klin. Woch.*, 1904, No. 4).

These two papers contain in a more extensive and elaborate way the points brought out by the author in his lecture given at Cassel. These points have been reviewed in this journal, so it will be unnecessary to enter into any details at this time. When Behring's views are pronounced correct,—for instance that inhalation tuberculosis does not exist; that the primary infection almost always occurs during infancy—that then our conceptions on tuberculosis must be altogether remodeled, has already been said. The only question to be considered as to Behring's pronouncements is what right, scientifically and experimentally, can be claimed to make them public and to bring to a standstill work that we believe has already brought immense benefit and progress in dealing with tuberculosis. If we glance at the principles (the *Leitsätze*) of the author, we find forty-one of them, every one being essential and of intrinsic weight, if true. As almost all of them directly and harshly contradict the opinions so far held and corroborated by, what we think, scientific and reliable observations, we must naturally inquire where is the proof that we have been wrong and that Behring alone is right? The one question of the identity of human and bovine tuberculosis is treated here as perfectly settled, while all over the world numberless observers are busily trying to bring evidence for the one or the other side. The only statistics so far to be considered scientifically, have shown that with increasing age the percentage of tuberculous infections increases, that children up to ten years of age give a very low percentage and not in comparison with that of higher ages. To find tuberculous foci in infants up to one year who have died from other causes is, in truth, a rarity. Behring's assertion that invading tubercle bacilli can remain latent for a long time, and that infantile tissues are comparatively immune to them, is simply an assertion absolutely contradicted by the rare cases in which an early infection occurs and startles us by the enormously large extent of the lesions and their rapid development. In this country the statement that has lately been advanced in favor of Behring's view (Warthin, in *Jour. of Infectious Diseases*, Vol. I, No. 1), that the tubercle bacilli can be found in the fetal tissues without any cellular reaction, means nothing, since we know nothing about the time when they have reached them. That the fetal intestine of animals is easily permeated by bacteria is true, but have not many observations shown that the same obtains for adult animals, as only lately the experiments of Ravenel have demonstrated? Certainly tubercle bacilli may penetrate the tissues at any time, but they will cause lesions, palpable and visible, and in infants we see this but exceedingly rarely. Every infant

dying ought to show tuberculous lesions, intestinal, lymphatic or pulmonary, if during infancy it was exposed to infection, either by milk or from other sources. If the danger from the bovine bacilli of the milk be as great as Behring maintains, we would find this condition. That there is given sometimes the necessary condition for infection has been shown by Kossel and Schuetz; and even Koch has never pronounced the absolute innocuity of bovine bacilli. That they are not the prime factors of human tuberculosis even our American observers, at first so enthusiastic, begin to see.

These remarks show, at least, that so far the discussion about these points is not closed except for Behring's statement, nor even advanced to a stage in which a final decision could in a short time be expected. Behring expresses himself as if by his investigations he had brought about this decision, but in vain we look for the evidence. Assertions, even by a man like Behring, are not accepted in questions as vital and fundamental as tuberculosis without the necessary experimental and scientific guaranty. If we read over Behring's publications the idea takes hold of us that he must be a man able to accomplish in a few years as much as hundreds and thousands equally able men could do in their whole lives. There are hundreds of important problems touched upon that in the author's mind are explained and elucidated by him. His explanations are very original and ingenious, but we cannot take his word simply for believing that his ingenuity has not gone astray. To this class of problems belongs also his relation of the changes occurring in milk after secretion, a relation that reads like a novel, enthusing and fascinating. All this does not mean that in the end Behring will not prove all of his far-reaching deductions. So far, however, the scientific world hesitates to accept them because of the absence of the necessary basis. It would be a great calamity if without criticism and control these views were accepted, as it is a pity that they have been thrown broadcast into the lay world.

The prospects that Behring gives for the future are reliable milk and to a degree sanitation, further, immunization by antitoxic substances. Here, again, an absolute lack of evidence of the existence of such antitoxic substances must be noted, even an absolute absence of knowledge about the real toxic substance in the tuberculous process. The only thing that positively forms an advance of our general information, is that Behring openly advocates the preservation (or rather intactness) of milk by the addition of formalin, a point about which much worthless and aprioristic discussion and experimentation has been wasted.

The Relation of Anthrax Bacilli to Endothelial Cells in Mice and Guinea-Pigs.—BEHRING (*Muench. Deutsche Med. Woch.*, 1904, No. 1).—An anomalous staining reaction of the heart endothelium towards Ehrlich's methyleneblue eosin solution was observed by the authors in animals dead from anthrax. They found the cytoplasm of these cells stained red, the more pronounced the longer the infection had existed. This reaction is explained by a specific action of the anthrax bacilli; it is mostly accompanied by a copious number of bacilli either attached to the cells or lying within them. An active penetration of the bacillus into the cells is assumed, not a mere phagocytosis. As a fact, a greater

number of the bacilli were found on these endothelia (heart and vessels) than in the blood itself. These close relations of the anthrax bacillus to endothelium can be found in places other than the circulatory apparatus, as, for instance, in the peritoneal cavity of guinea pigs into which the bacilli have been injected. The exudate shows numerous endothelial cells with this oxyphile degeneration and masses of bacteria. The conclusions of Behring are as follows: The substance antagonistic to the toxin of the anthrax bacilli is to be found in the endothelia. It is very likely that the contact of the toxin present in the living bacilli with the anti-body in the endothelia is brought about by a colloidal state of solution of this anti-body in the intravascular and intracellular fluids.

On the Cultivation of Trypanosoma Brucei.—F. G. NOVY and WARD J. MCNEAL (*The Journ. of Infectious Dis.*, Vol. I, No. 1).—The paper is mentioned because it is the second protozoon that by the authors' efforts has given up his reluctance against the artificial life in pure cultures. The obtaining of pure cultures of trypanosoma *Lewisii* by the same men, was reported in this journal before. This time they have succeeded in cultivating the parasite of the fearful tsetse—disease of cattle or nagana, that in many areas of Africa makes cultivation and civilization impossible. The importance of this discovery lies mainly in the fact that by it the thorough investigation of the disease is possible and means may be found to act on it in a curative or prophylactic way. The cultures are made by inoculating the diseased blood in agar mixed with two or three times its amount of fresh rabbit's blood. They have so far been propagated through eight generations and have proved to retain almost fully their original virulence. The causal relationship of this trypanosoma Brucei to nagana has thus been finally established. It cannot be said what influence this discovery will have on a disease of the human race, also caused by such a flagellate (tryp. gambiense), the sleeping sickness.

GYNECOLOGY AND OBSTETRICS.

IN CHARGE OF

HUGO EHRENFEST, M. D.

The Deportation of Chorionic Villi and its Consequences.—J. VEIT (*Zentralblatt fuer Gynaek.*, No. 1, 1904).—The clinical significance of the interesting phenomenon of deportation of chorionic villi into the maternal system during pregnancy, for the last few years has been the subject of much fruitful study. Veit, the originator of this theory, in this paper presents a concise and complete *resume* of all the various hypotheses that have been based upon his observations, carefully differentiating between those that are still under discussion and those that are generally accepted at the present day.

The fact that during pregnancy chorionic villi are torn off and carried into the circulatory system of the mother is well established. The

simple mechanical effect of this occurrence is manifold. Thromboses form in the serotinal veins. On account of numerous anastomoses existing between veins of the deeper layers of the serotina, disturbances of practical importance, however, do not result. The intervillous spaces become enlarged. Chorionic villi entering into serotinal veins transform them into intervillous spaces, a fact that has been convincingly shown on pregnant tubes (however, not yet on the pregnant uterus). In serial sections of placental polypi, centrally situated maternal veins have been found filled with living villi. It would seem that deportation of villi into veins of the decidua is a frequent cause for the formation of placental polypi. Abnormally firm adherence of the placenta and the development of a *placenta disseminata* is explained by the fact that under certain conditions chorionic villi are carried through serotinal veins into veins within the uterine wall. The deportation of villi plays an important *role* in the premature separation of the normally-implemented placenta. Clogging with villi of either the *sinus circularis* or the vein carrying the blood from the *cotyledo*, leads to a rupture of the vein, causing a hemorrhage between placenta and serotina. Sudden hemorrhage of a very severe character in cases of rupture of a pregnant tube may be due to the rupture of veins clogged with deported villi. Veit suggests that the same phenomenon in an analogous manner may be of importance in the etiology of the spontaneous rupture of the pregnant uterus. Of eminent practical interest is the deportation of villi in cases of hydatidiform mole and malignant chorio-epithelioma. In Veit's opinion, many cases of so-called "destructive" hydatidiform mole can be explained simply upon the theory of deportation. The epithelial cover of the deported villi sometimes shows signs of an atypical proliferation, as it is seen on cystic degenerated villi within the uterus. But although this new-formed tissue often exactly resembles chorio-epithelioma, and would seem to be malignant in its microscopical features, clinically it is benign. This peculiar fact is, in the writer's opinion, easily explained by the now almost generally accepted observation, that even after the death of the fetus the enveloping membranes of the ovum may continue to grow and to functionate. The following interesting theory of the formation of the hydatidiform mole is suggested: The fetus is dead, the cover of the villus continues to functionate—even grows. Fluids are resorbed as usual from the maternal blood, but on their way to the interior of the ovum they cannot pass through the dying connective tissue of the villus. They are retained there, and cause the transformation of the villus into a cyst. Nodules in the paravaginal tissue containing chorionic villi, which show the microscopical picture of malignancy, are not necessarily metastases of a chorio-epithelioma or of a "destructive" hydatidiform mole. The claim of various writers that deported *normal* chorionic villi may undergo malignant degeneration in their new location is, in the author's opinion, not yet positively established.

Another feature of practical importance is the possibility of dissemination of germs with the deported villi. Numerous hypotheses have been advanced based upon Ehrlich's side-chain theory. It is very probable that cytolytins or syncytiolysins are formed by the action of the maternal blood serum upon the deported villi. By means of animal

experimentation the fact has been established that the injection of chorionic tissue will produce albuminuria—even cause the death of the animal. The view is gaining ground that the kidney of pregnancy, and especially eclampsia, are due to these syncytiolysins, and only of late a writer tries to prove his contention that hyperemesis gravidarum is produced by these same toxins. Veit refers to the attempts of Opitz and Weichardt to produce, in conformity with this new conception of the etiology of eclampsia, a serum for the treatment of this disease. He is very skeptical concerning the success of their efforts.

Appendicitis in its Relation to Pelvic Inflammation.—J. M. BALDY (*Medical Record*, January 9, 1904).—The writer appreciates the reasons of the class of surgeons who remove the vermiform appendix as a routine practice, as a prophylactic measure, although he does not agree with them. He is, however, unable to follow the reasoning of that class who adopted the practice of removal on the ground that the condition of adhesion implied appendicitis or future danger of the disease. Ninety-five per cent. of the mixed class in origin were cases of pelvic inflammatory disease, and the adhesion of the vermiform appendix was a mere coincidence due to inflammation of contiguous serous surfaces, as was so commonly the case of adhesions of the intestines in pelvic inflammatory diseases. His experience has led him to differ with those writers who held that appendicitis generated pelvic inflammatory disease, or that pelvic inflammations cause appendicitis. The two diseases were rarely associated, and then only as a coincidence. He is firmly of the opinion that the one never causes the other. In all his experience he had never seen a single case in which, having found pus in a Fallopian tube, pus was present in the involved vermiform appendix; nor has he ever found a perforated or gangrenous appendix in such a case. On the other hand, where he has found a perforated or gangrenous appendix, or one which contained pus, he has never noticed pus in a Fallopian tube or ovary.

Myomectomy of the Gravid Uterus.—R. CONDAMIRE (*Lyon Medical*, January 17, 1904; rev. *Medical Record*, February 13, 1904).—The writer thinks that myomectomy is especially indicated in the pregnant uterus when the symptoms are extremely painful and persistent, and when the situation of the fibroma would prevent a normal delivery. The risk of abortion should be avoided by operating at the earliest possible moment and removing the threatening tumor. The operation is indicated when the presence of the fibroma has caused one or more abortions. Without consideration of pregnancy the operation is indicated in a woman under thirty-eight or forty, who wants to preserve her child-bearing function. The author thinks that myomectomy, which is an especially conservative operation, has lost ground, while of late years the technique and with it the results of hysterectomy have evidently been improved. He does not think, however, that there is any occasion for comparing myomectomy and hysterectomy in reference to a gravid uterus. Myomectomy is indicated under certain conditions, and when these do not exist, total removal should be chosen for a fibromatous uterus.

PEDIATRICS.

IN CHARGE OF

ALFRED FRIEDLANDER, M. D.

Antiseptic Treatment of Pneumonia in Children.—DESSAU (*Med. Record*, February 13, 1904) calls attention to the view which has been repeatedly expressed of late that both lobar and lobular pneumonia are due to the action of the same specific germ in different degrees of virulence. It is held, according to this view, that broncho-pneumonia is in reality not secondary but a primary infectious process, just as lobar pneumonia is.

If we grant that both forms of pneumonia are self-limited, infectious processes, it is irrational, according to Dessau, to be satisfied with a merely expectant plan of treatment. He believes that we should, logically, adopt the principles of antiseptic therapeutics.

In the author's experience, carbolic acid, internally, has met the indications very well. To a child of three years he gives one drachm of a two per cent. solution every two hours, using cold compresses locally.

Even albuminuria is no contraindication to the use of carbolic acid internally. All authors have called attention to the importance of keeping the digestive functions of the child in good condition during pneumonia. Abdominal tympany is particularly to be avoided if possible, owing to the embarrassment of respiration induced by it. Carbolic acid appears to control undue fermentation of the gastric contents, and is thus indirectly an aid in maintaining a more normal condition of digestion.

In addition to the carbolic acid, hydrotherapeutic measures are ordinarily used by the author in the treatment of lobar or lobular pneumonia, and if cough is very distressing, five or ten drops of paregoric are given at bedtime.

Other therapeutic measures are, in the author's judgment, not necessary, and this line of treatment has given him excellent results.

Lobar and Broncho-Pneumonia in Infants and Children.—A symposium was held on this subject at the New York Academy recently which brought out some points of interest. (*Archives of Pediatrics*, February, 1904.)

Pathology.—According to Bovaird, there are no striking differences in the pathology of lobar pneumonia in early and later life. Partial consolidation of one lobe is more common in children than in adults. The most important associated lesions are found in the pericardium, peritoneum and meninges. Broncho-pneumonia occurs in about 40 per cent. of all autopsies at the New York Foundling Hospital. Empyema is a frequent complication of this form, far more common than in adults. In about 95 per cent. of the lobar and 50 per cent. of the lobular pneumonias, the pneumococcus is the infecting agent. The tendency now is to give more importance to the general infection and less to the local lesion.

Symptomatology and Diagnosis.—Northrup says that the onset of the disease is abrupt, with vomiting, drowsiness, pallor and loss of appe-

tite. Fever comes on rapidly, and the pulse respiration ratio is changed to approximately one to three. This fact alone should always lead the physician to search for a lesion in the lungs. A little later there is diminished respiratory murmur over the affected lung and successively, harsh breathing, bronchial voice, bronchial breathing and bronchial whiff. Cough is not constant. The degree of toxemia is, as a rule, proportionate to the amount of lung involved. The stupor is often so profound as to lead to the suspicion of some cerebral lesion, especially as there is often some stiffness of the neck muscles, but in pneumonia there is also resistance in both shoulders and arms and disturbance of the pulse respiration ratio. The presence of mucous diarrhea may, at times, obscure the diagnosis. In early life, cases of pneumonia may resemble appendicitis.

Treatment.—Confining himself to lobar pneumonia, Winters said that almost every case in early life would terminate in recovery whether treated or not. Hence the treatment should be such as will disturb the patient as little as possible. Warmth is important, because cold skin means contracted cutaneous vessels, and this means increased congestion of the pulmonary vessels. He objects to the external application of cold to the body, because this results in a rise of the internal temperature, and because it causes intense nervous excitement and unnecessary resistance. To quiet nervous excitement, nothing is better than the old-fashioned Dover's powder, made with sulphate of potassium. Aconite is urgently indicated in the early stage; and to further stimulate diaphoresis, twenty drops of the sweet spirit of niter should be given every hour to an infant of one year. Food should be reduced in quantity and water should be given freely. As a rule alcohol is to be avoided, but when required, as at the crisis, it should be given in fairly large doses by the rectum. Oxygen is of decided value, but it must be given continuously.

In the discussion, Freeman said that too much stress should not be laid on the physical signs, because they are often very obscure and the diagnosis must be made on the vital signs and the symptoms. The main points in the treatment are to keep the gastro-intestinal tract and the heart in good condition. He considered alcohol of value in the later stages, and believed in the use of oxygen if drugs could not be given.

Kerley said that, unlike Dr. Winters, he finds the external application of cold in the form of cold packs to be of great value. The legs and arms should be kept free, and the temperature of the water suited to the individual case. In broncho-pneumonia he finds the application of mustard paste (one part of mustard to two parts of flour) applied to the skin at intervals of four hours, until it is thoroughly reddened, and the use of steam inhalations to be of great value.

Koplik insisted on the danger of cold to very young children, to which they do not react well. He considered steam inhalations of doubtful value because they exclude fresh air and load the atmosphere with moist vapor.

Carr emphasized the importance of distinguishing between lobar and broncho-pneumonia, since the former requires almost no treatment, while the latter often demands active medicinal measures.

The Diagnosis of Measles.—VARIOT (*Gaz. des Hop.*, January 14, 1904), while recognizing the ease with which the diagnosis of measles can be made in the typical cases, calls attention to the difficulties that are often encountered. For instance, he notes that influenza may easily be mistaken for measles until the characteristic eruption appears. He believes that the exanthem of measles (a diffuse redness of the buccal and pharyngeal mucosa) can be seen almost constantly a day before the appearance of the eruption, but he thinks that Koplik's spots are only very rarely to be seen. He adds that this is the consensus of opinion of his colleagues also.

The parotid region should always be examined very carefully when looking for the eruption, because the rash can be seen here very early.

In discussing abnormal types of eruption the author calls attention to a confluent form, which resembles scarlet very closely. In such cases the examination of the mouth is often of great value, because of the characteristic appearance there in the two diseases.

In the differential diagnosis between measles and roetheln, stress is laid on the absence of severe constitutional symptoms in the latter affection and upon the presence, in roetheln, of a general adenopathy of the axillary, cervical and inguinal glands, which is wanting in measles.

Erythemata of gastro-intestinal origin are never accompanied by the mouth exanthem. Drug eruptions are at times very confusing, but the history of drug-taking and the absence of the usual premonitory symptoms will usually clear the diagnosis. More difficulty is at times caused by serum eruptions after antitoxin. According to Variot, these rashes frequently resemble measles and in at least one-third of the cases are accompanied by more or less fever. Inasmuch as the two diseases are at times coincident, a certain difficulty in diagnosis can thus arise.

While the true hemorrhagic form of measles is very rare, the co-called purpuric form is not, nor is it in and of itself especially grave.

NEUROLOGY.

IN CHARGE OF

SIDNEY I. SCHWAB, M. D.

Cytological Examination of the Cerebro-Spinal Fluid for Diagnostic Purposes.—MEYER (*Berl. Klin. Woch.*, No. 5, 1904).—The relation of the cellular contents of the cerebro-spinal fluid to the diagnosis of diseases of the nervous system is the subject of this paper. Thirty-five cases were examined for this purpose with the following results: In fourteen cases, eleven of which were undoubtedly dementia paralytica or tabes, there was a marked lymphocytosis. In four cases, chronic alcoholism, multiple sclerosis and katatonia, there was a leucocytosis. In the remaining seventeen cases, mainly of so-called functional diseases, a lymphocytosis was in no case present. The results here noted are in full accord with those of the French writers, namely: In almost all cases where there is a probability that there is present an organic condi-

tion combined with a chronic irritation of the meninges, a lymphocytosis will be found in the cerebro-spinal fluid.

Report of a Case of Brain Tumor Involving the Right Lateral Ventricle.—LESZYNSKY (*Medical Record*, January 30, 1904).—On account of the rarity of the localization of this brain tumor, the case merits abstracting. Resume of the case: Girl, nineteen years, no trauma or history of infection, is attacked by severe headache. Vomiting and vertigo, with blindness. These symptoms are progressive and constant, with the addition of astereognosis of the left hand, slight left hemiparesis, with hyperesthesia and convulsive attacks, limited to the face for several months, afterwards becoming general. An exploratory operation was made, but no definite evidence of tumor was found in the field of operation, which was over the fissure of Rolando, laid bare by a flap $3\frac{1}{2}$ by $3\frac{1}{2}$ inches. At the autopsy a tumor was found beneath the parietal portion of the right ventricle. The tumor was about the size of an egg. The tumor was in all probability a glioma, though no gliomatous cells could be demonstrated.

Case of Pneumococcal Meningitis and Some Records of the Value of the Cytological Examination in Cases of Meningitis.—WARRINGTON (*Review of Neurology and Psychiatry*).—An account of ten cases of meningitis due to different causes, in which the diagnosis was made or substantiated by the examination of the cerebro-spinal fluid. In two of the cases here described the diagnosis could be made in spite of the absence of Kernig's sign. The author has found the formula to be true, as noted by previous investigators, namely, that in acute non-tubercular meningitis a leucocytosis is found, while in tubercular disease a lymphocytosis. The author is in agreement with the conclusion of Campbell, that a positive cytological result from the examination of the cerebro-spinal fluid is the most valuable single objective symptom we are acquainted with.

On the Ætiology and Pathology of Tabes, Especially Its Relation to Syphilis.—LESSER (*Berl. Klin. Woch.*, No. 4, 1904).—A dermatologist's views on this question are always of interest, and especially so when the data presented throw considerably new light on the disputed points. It must not be forgotten that it is due to a dermatologist that the syphilitic origin of tabes was first brought out in the remarkable work of Fournier. The author of this paper sets himself the task of finding a more certain proof of the relation of tabes and syphilis than the statistical data derived from the history of specific infection, as noted by the patient. The following lines of inquiry are suggested: (1) The determination of the per cent. of tabetic post-mortems in which there are evidences of a previous syphilis. (2) The determination of the per cent. of the anatomical evidences of syphilis in all over thirty-five years old. In ninety-six cases of tabes, twenty-seven showed evidences, anatomical in nature, of syphilis. In all individuals over thirty-five years old evidences of syphilis were found in only 9.5 per cent., as against 28 per cent. in the former series. In order to divide the manifestations of syphilis into convenient types, and in order to give an adequate basis for a pathological classification, the author divides the syphilitic mani-

festations into three divisions, as follows: (1) Papular inflammations. (2) Gummous inflammations, which includes tertiary manifestations, such as gummata of the skin, liver, etc. (3) Interstitial inflammation, including fibrous orchitis, the syphilitic lobed liver, etc. The histological changes in tabes consists in a parenchymatous degeneration of the nervous elements in the posterior columns of the cord and increase in the connective tissue of the spinal cord the so-called neuroglia. All other changes are inconstant and of secondary importance. The fact that tabes is essentially an interstitial process directly dependent upon syphilis brings the problem of its origin within the confines of actual demonstration and of analogy with the late syphilitic process of the same nature. The various objections which have been advanced against this assumption are taken up in detail in the following manner. First objection: Mercury and the iodides are without any therapeutic result in tabes, while in syphilitic processes they act as a specific. This objection is met with the statement that tabes is not a tertiary manifestation, but is a manifestation of the same class as an interstitial syphilitic process, and that these do not react to antisyphilitic treatment. Second objection: In most cases of tabes there are no evidences on the skin or in the internal organs of syphilitic lesions co-existing with the tabes, and that it is the most severe cases of syphilitic infection which are not followed by tabes. This objection is met in this way. It is assumed that the cause of syphilis is an organism. The virulency of this organism, or, rather, the severity of the lesions it produces, is directly connected with the character of the histological nature of the tissue change which follows. A severe infection means one in which the virulence is so great that the interstitial changes are not produced, but the more acute parenchymatous affection. As tabes is essentially a lesion produced by an attenuated virus, the tabetic changes do not follow this sort of an affection. Third objection: That in relation to the prevalence of syphilis, tabes is found too seldom. This seems to be a very easily answered objection. It is suggested that the question be asked not how many tabetics are syphilitic, but how many syphilitics are tabetic. This is further an invalid objection, because, if tabes is regarded as a form of interstitial syphilitic inflammation, the number of cases in proportion to the number of infections is of no particular importance as far as the main question is concerned. Fourth objection: Tabetics can become reinfected with syphilis. This objection is answered by the well known fact that there is nothing that is contradictory in the reinfection of a syphilitic. There are a number of such cases reported. The author brings out the interesting fact that all the cases of infantile tabes thus far reported have been among patients with inherited syphilis. The author closes his paper with this resume of his theory: If tabes is a direct syphilitic, a quartan syphilitic disease, and is caused by the syphilitic virus in the same way as orchitis, fibrosa and the syphilitically-lobed liver, and aneurism, and the smooth atrophy of the tongue, then, in the prognosis of any syphilis, the possibility of tabes and dementia paralytica must be always considered. The assumption of a quartan type of syphilis simplifies and renders unnecessary many hypotheses and premises.

GENITO-URINARY SURGERY.

IN CHARGE OF

H. McC. JOHNSON, M. D.

Tuberculosis of the Urinary System in Women—Report of Thirty-five Cases.—HUNNER (*Johns Hopkins Hosp. Bul.*, January, 1904).—The author warns against ureteral catheterization of the healthy side in renal tuberculosis, quoting a case in which there is some doubt as to whether infection was not carried by the catheter. He reports thirty-five cases, all treated surgically, that is by nephrectomy combined with removal of a part or the whole ureter, in three cases a nephro-uretero-cystectomy being done. As a result, twenty-two of the thirty-five cases may be placed in the good health class. He finds that urinary tuberculosis in women is a disease of early life. While it is usually primary in the kidney, yet about half of the patients first complain of bladder symptoms. It is confined to one side in the vast majority of cases. If involving both sides a very painstaking examination must be made of the separate urines to determine whether the treatment should be surgical or medical. The disease should be kept in mind in dealing with any symptoms referable to the urinary tract; even such common occurrences as a supposed movable kidney or incontinence of urine should be carefully investigated. Appendicitis and gall-stone colic must be differentiated. Any obscure or a typical case of supposed malaria or typhoid fever should remind one of this disease.

The disease is compatible with a long life of comparative health, and macroscopical and microscopical examination of our specimens shows that in some cases there is a tendency to spontaneous healing; but in spite of these two facts a careful study of these thirty-five cases shows the disease to be pre-eminently surgical.

The Use of Formaldehyde as a Preservative in Urine.—KENNEY (*N. Y. and Phil. Med. J.*, February 27, 1904).—Having a reaction, upon applying Heller's test, analogous to that of albumen in a specimen of urine preserved with 40 per cent. formaldehyde from a patient whose urine afterwards contained no albumen, Kenney undertook investigations in regard to the effect 40 per cent. formaldehyde had upon urine when added to it as a preservative, with the following conclusions:

1. Formaldehyde as an artificial ingredient of the urine will lead to deceptive results in uranalysis by (a) making the urine appear albuminous when it is negative; (b) not giving a typical reaction when albumin is present.

2. The reliability of Introna's test, namely, the use of formaldehyde in albuminous urine as a reagent, is to be questioned, inasmuch as the effect of formaldehyde on negative urine is the same, though to a more marked degree, as that on albumin in solution, the difference in the color and density of the precipitate being immaterial.

3. As a factor in the production of a possible pseudo-albuminuria, the therapeutic use of urotropine is a subject well worthy of extended observation and study.

Some Conclusions Based on a Study of One Hundred and Thirty-four Cases of Calculus in the Ureter, with Report of Three New Cases.—TENNEY (*Bost. Med. and Surg. Jour.*, February 4, 1904).—Intermittent pain on one side, with varying amounts of red blood in the urine, are constant symptoms of stone in the ureter.

Though the best means of locating stones, the x-ray cannot give evidence *sufficient in itself* to warrant us in operating or refusing to operate on certain cases. If a calculus starts from kidney to bladder, it is likely to catch within an inch of one of three places, all of which are accessible to the surgeon through extraperitoneal openings.

A single calculus is the rule, but exception occurs, according to these cases, about once in eight times.

The opening in the ureter or kidney pelvis for removal of the calculus should be sutured if possible. Both sorts of suture materials have been used with equally good results, and wounds in both locations apparently heal equally well. The recovery is only delayed if sutures are not used.

A calculus in the ureter is a menace not only to health but to life, and its removal is an operation of low mortality, provided it is undertaken before secondary changes appear in the kidneys.

The Conservative Treatment of Some Surgical Diseases of the Renal Pelvis and the Ureter by the Ureter-Cystoscope.—KREISSL (*N. Y. and Phil. Med. J.*, February 13, 1904).—From an extended use of the ureter-catheter-cystoscope for topical applications in the upper urinary tract the author has come to the conclusion that the efficiency of the cystoscope as a therapeutic means has been grossly exaggerated, although it cannot be denied that, when judiciously employed, it has its useful, but very limited, sphere. The frequent passing of a ureter-catheter is of itself a factor of considerable disturbance to the ureter; besides, various abnormal conditions along the route the catheter has to traverse, limits its use. In order to prevent the trauma from repeated catheterizations, the author in some conditions, as stubborn mild chronic pyelitis, leaves the catheter in the ureter for at least a week at a time.

The presence of a properly placed catheter in the upper urinary ways is absolutely harmless, even if maintained for several weeks. Hydro-nephrosis and renal retentions may be temporarily relieved by the catheter *a demeure*. The successful treatment of ureteral strictures by dilation has not materialized. Brilliant results may be obtained by lavage of the renal pelvis, when gravel has accumulated therein. A very small proportion of calculi impacted in the ureter is amenable to a conservative procedure. The method of treating certain forms of renal and ureteral fistula by draining the urine directly from the renal pelvis through a ureter catheter, thus obviating tedious and oftentimes dangerous secondary operations, is not generally known. So, too, fistula following various operations on the ureter and renal pelvis will be rarely observed if a catheter is left in the renal pelvis and ureter for the first three days after the operation.

Solitary, or Fused, Kidney, with Report of a Case.—DENNIS (*N. Y. Med. Jour.*, January 30, 1904).—The author gives the following summary:

1. According to available statistics, complete absence or extreme atro-

phy of one kidney is found once in 2,650 cases; horseshoe kidney once in 1,000 cases; and the fused kidney, exclusive of the horseshoe variety, once in about 16,000 cases.

2. The great majority of fused kidneys are misplaced, being usually in the median line and lower than normal.

3. The completely fused kidney, with normal position and approximately normal outline, is the rarest form of all.

4. Cystoscopic examination, with catheterization of the ureters, will prevent the error of removing the only organ present in all cases, except those of fusion.

5. Horseshoe and irregularly fused kidneys may be recognized on exposure by their abnormal shape or position, or by both.

6. The single remaining and rarest variety, that with normal outline and position, can probably always be at least suspected and left, if the ureter and pelvis are found shifted to the anterior surface.

LARYNGOLOGY AND OTOTOLOGY.

IN CHARGE OF

WILLIAM E. SAUER, M. D.

Scarlatinal Panotitis; Exfoliation of a Portion of the Labyrinth; Radical Operation.—DR. CARL KOLLER (*Med. Record*, January 30, 1904) describes an interesting case of scarlatinal panotitis as follows: The patient, a girl of four years, was taken ill with vomiting and fever. On the second day a scarlatinal eruption appeared, followed two days later by the appearance of a diphtheritic membrane in the throat and swelling of the glands. At the end of the first week the child complained of pain and deafness, which were soon followed by a discharge from both ears and absolute deafness within twenty-four hours of the appearance of first ear symptoms. There was suppuration of the submaxillary gland on the left side. The family physician continued to treat the case without consultation. About a month later the submaxillary and cervical glands being swollen and painful and both ears discharging, the patient was admitted to the hospital. Examination showed large perforation of the drum on both sides and granulations in the middle ear. Panotitis with necrosis of the labyrinth was diagnosed. A radical operation was performed, the cavities of the middle ear being thoroughly exposed. Pus and granulations filled the attic and antrum; the ossicles were found disarticulated and imbedded in the granulations. From the middle wall of the attic a loose, shell-like sequestrum was detached which proved to be a part of the labyrinth. The facial nerve was exposed in removing another piece of necrotic bone, and whenever touched caused the muscles to twitch. The bone cavity was smoothed with the electric burr and tamponed with iodoform gauze; the opening behind the ear was left patulous. The patient made an uneventful recovery and after two weeks the wound behind the ear was closed. The hope of a partial restitution of hearing has not been realized.

Methods of Controlling Hemorrhage of the Oral Cavity.—DR. H. E. BELDEN (*Jour. Am. Med. Assn.*, February 13, 1904) cites several methods for controlling hemorrhage of the oral cavity. The author believes the physician should impress upon the patient his ability to control hemorrhage, and thus prevent fatal bleeding as a result of vasomotor paralysis. From a dental standpoint hemorrhage often occurs after extracting a tooth as the result of the dental artery becoming entangled in the ragged edges of the alveolus and its mouth being held open. A drill run into the cavity would disentangle the artery and stop the bleeding.

Among the mechanical methods for stopping hemorrhage are: plugging or tamponing, compression, ligating the artery, torsion, suturing, etc. It is recommended that systemic remedies be administered before operations on those cases presenting a hemorrhagic diathesis. Calcium chloride, eight to sixteen grains every two to four hours for three days or more, is said to increase the coagulability of the blood. Albumen in the form of whites of eggs three times daily, or gelatine in doses of 100 to 400 grains daily, and continued indefinitely when Bright's disease is not present, are mentioned. Locally, adrenalin is recommended as the most powerful astringent and hemostat known. It stimulates the heart and is non-irritating, non-poisonous and not cumulative, and is an invaluable remedy in carrying out bloodless operations in nose and throat work.

DERMATOLOGY AND SYPHILIS.

IN CHARGE OF

MARTIN F. ENGMAN, M. D.

Dermatites Pyemiques.—A. LEBET (*Annales de Derm. et de Syph.*, December, 1903).—In general pyo-septicemic infections there often occurs dermatoses caused by the infective organism, staphylococci or streptococci, which are transported to the skin through the blood stream in the form of metastatic pyemic dermatoses. These eruptions may be multiform, pustular, purpuric or varioliform. The bacteria form the metastases in the capillaries of the papillæ, in the derma, or, in the sub-cutaneous tissue; in the latter case the localization is preferably in the veins.

In the cases cited from literature by M. Lebet, namely: diphtheria, acute nephritis, phlegmon, pyemia, intestinal catarrh, bronchitis, endocarditis, abscess of the ear, meningo-encephalitis, all these conditions have been complicated by metastatic dermal eruption in which the staphylococcus or streptococcus have been found histologically.

Protozoa in a Case of Tropical Ulcer ("Aleppo Boil").—J. H. WRIGHT, M. D. (*Jour. Cutaneous Dis.*, January, 1904).—Tropical ulcer has considerable clinical resemblance to the lesions of tuberculosis and syphilis. The disease is endemic to tropical countries and lasts for a year or longer. Mosquitoes and other insects may be the carriers of the infection. Sev-

eral kinds of organisms have been found in the lesions, but the result of only three observers the writer thinks is worthy of consideration: Cunningham found an organism which he considered a mycetozoa; Firth confirmed Cunningham's observation; also Riehl.

In the histologic examination of the reported case Wright found bodies which presented the following characteristics: they are generally round, sharply defined and two or more mm. in diameter. These bodies are in large numbers in the smears, often occurring in aggregation associated with a large nucleus, thus suggesting that they have been contained in a large cell whose outlines have disappeared in the process of fixing and staining. The general morphology of those bodies and their position in cells seems to justify the belief that they are micro-organisms and are the infectious cause of the lesion. The author considers them protozoa, and their small size and great number in the cell suggests that they are microsporidia. The name *helcosoma tropicum* is suggested as a name for the organism.

Vitiligo Treated with Finsen Light.—DOUGLAS W. MONTGOMERY, M. D. (*Jour. Cutaneous Dis.*, January, 1904).—The patient was a man nineteen years of age. He had had vitiligo for five years and had patches over the whole of the cutaneous surface. After medical treatment without improvement the Finsen light was tried on account of its well-known stimulating effect on the skin in general and especially on the pigment. The spots exposed to view on the face and hands were treated. The patient had nine sittings and at each sitting the light was applied to a given spot until a good reaction was obtained. The skin was well reddened as in sunburn. Some spots improved at once, others more slowly. There were five applications to each spot treated. Five months later the patient wrote saying that all the spots on the hands and face had disappeared.

The Clinical and Pathological Characters of the "Veld Sore" Prevalent Amongst the Troops in South Africa.—N. BISHOP HARMAN (*British Jour. of Derm.*, January, 1904).—The *Jour. of Path. and Bact.*, August, 1903, first published this paper of Dr. Harman which is given almost in full by the *British Journal of Derm.* The sore as usually seen is a superficial ulcer, edged by a fringe of exfoliating epithelium and an area of inflammatory redness. The intractable nature of the sore is characteristic. It begins as a small blister or group of blisters, that break and leave a superficial ulcer which will not heal and exudes pus for months. It may scab over, but does not cicatrise. No general symptoms supervene unless the sore becomes badly infected from secondary sources. Abrasions or bites of flies is the common mode of origin. In treating the sore it is necessary to remove the scab and the epidermis for a considerable area beyond the sore. The sore should be very thoroughly curetted and dusted with calomel, and unless all diseased tissue is removed it will not heal. In the bacteriological study Dr. Harman isolated a diplococcus which is similar in morphology to a staphylococcus which he thinks is the cause of the disease. Inoculations on his own person from cultures produced the initial blister.

OPHTHALMOLOGY.

IN CHARGE OF

JOHN GREEN, JR., M. D.

Influence of Alcohol on the Course and Complications of Syphilis.—YAHZA-MIRZA (*Rec. d'Ophtalm.*, October, 1903).—Although syphilis is relatively as frequent in Persia as in France, complications are infrequent. The course of the disease is mild and without ulterior consequences.

Ocular complications are especially rare. The writer ascribes this relative immunity to the very general abstinence from alcohol among the inhabitants, especially those living in the provinces.

Simple Glaucoma in the Young, with Report of Two Cases.—VEASEY and SHUMWAY (*Ophthalm. Record*, January, 1904).—Cases of glaucoma simplex occurring before the twentieth year are rare—less than one-tenth of one per cent. of all cases. In addition to the ordinary symptoms a striking feature has been the co-existence of myopia, which Nettleship observed in two-thirds of his cases.

Case 1.—Vision of the right eye began to fail during convalescence from typhoid at the age of sixteen. Three years later the eye had become totally blind. The patient then began to have attacks of pain in the globe, temporal region and side of the head.

The right eye was divergent 45°. Anterior chamber shallow, the right pupil reacting consensually only. Glaucomatous cupping of the disk of 9 D. Tension +. The left eye, apart from a slight myopic astigmatism, was normal. Pain persisting despite energetic local treatment, the right eye was enucleated.

Microscopically the essential points were: Anterior surface of the iris covered with a dense pigment layer, the iris stroma composed of a meshwork of pigmented cells, pigment lying between the bundles of the ciliary muscle and around the loose-meshed tissue of Schlemm's canal and the angle of the anterior chamber. The anterior chamber shallow. The lens was about one mm. larger in both the antero-posterior and equatorial diameters than the average of ten lenses similarly treated. The cornea, on the contrary, was not larger than the average. The points of interest emphasized were: (1) the large size of the lens, and (2) the extraordinary pigmentation of the eye, especially in the neighborhood of the iris angle. This, as the writers suggest, may have been a contributory factor in preventing the ready outflow of fluid through the angle of the chamber.

Case 2.—Male, nineteen years old. Vision began to fail at sixteen years. There was well-marked glaucoma simplex of the right eye with deep glaucomatous excavation. The left eye showed merely a physiological cup. T. + in either eye. A family history of myopia and the presence of a high grade of myopic astigmatism in the patient were points of interest. The field in the right eye was almost lost, that in the left showed a slight concentric contraction. The patient passed from observation, returning ten months later with vision in the right eye reduced to "light perception" and in the left to 20-50 with a contracted field.

The suggestion is made that the stretching of the globe with concomitant changes in the ciliary region may have exerted pressure on the angle of the anterior chamber.

The Retinal Symptoms of Retinal Degeneration.—L. A. W. ALLEMAN (*Am. Med.*, February 20, 1904).—The possibility of detecting functional changes in the fundus before the development of indubitable organic alterations in cases of general vascular disease is discussed by the writer. He has endeavored to determine whether the ophthalmoscopic findings are indicative of corresponding conditions in the general economy.

For convenience of description the cases are divided into four groups, "which in practice shade insensibly one into the other." In the first group there is no organic lesion but merely a "crinkling" and sharp turning of the smaller retinal vessels, sometimes accompanied by slight retinal haze. The second group, in addition to the changes described as characteristic of the first group, shows, ophthalmoscopically, unmistakable rigidity of the vessels as is evident from the conspicuous bending of an upper vessel as it crosses a lower. A transient and shifting manifestation is a localized diminution in the caliber of the vessels, probably due to disturbance in the vaso-motor control. Occasionally is observed a momentary decrease in the force of the retinal circulation, giving to the examining eye the impression of a "flash," this condition being usually associated with deficient action of the heart. The writer believes that he has also noted a rhythmic rise and fall in the retinal circulation.

In the third group the curve at the crossing of the vessels is quite marked, the blood stream of the lower vessel being somewhat obscured by haziness of the upper vessel. Hemorrhages may or may not be present.

The fourth group includes cases of advanced vascular disease, the ophthalmoscopic picture including bendings at the crossings of the vessels and obliteration of the blood stream by the wall of the superior vessel, which in some places is quite opaque.

Fundus changes as described in the first group are accompanied by high peripheral tension associated with improper elimination, oftenest diminution in the elimination of urea. There is a general feeling of ill health. Passing to the second group, the symptoms include mental hebetude and hemicrania, which is associated with retinal spasm. The heart is apt to show evidence of strain, and the elimination of urea is diminished. Later, the disappearance of vascular spasm is evidence of the hardening of the arteries. In the third group the radials are somewhat hard; cardiac hypertrophy is positively present. Some patients show no symptoms; others are in the "habitual enjoyment of ill health" with acute digestive disturbances. Urinalysis shows low urea and specific gravity, and the presence of hyaline and granular casts. In group four organic lesions are always found. In older patients the significance of the retinal lesions is less grave, and it is not unusual to discover a Bright's fundus during a routine measurement of the refraction.

Cases occur usually between the ages of twenty and fifty. The writer concludes that the detection with the ophthalmoscope of the first departure from the normal in the vascular system will permit a regulation of life with a view to preventing the early advent of senility.

BOOK REVIEWS.

A TEXT-BOOK OF LEGAL MEDICINE AND TOXICOLOGY. By FREDERICK PETERSON and WALKER S. HAINES. Vol. II. W. B. Saunders & Co., Philadelphia. 1904.

The second volume of this expansive and at the same time comprehensive work compares favorably with the first. The main portion is devoted to toxicologic matters, written by a number of well-known authors. The reviewer does not know of a publication, except some voluminous German ones, in which toxicology is represented in a more complete way while at the same time preserving the attitude of scientific reserve and thoroughness. A subject so full of incentives to experimentation as legal toxicology cannot be left without the most scrutinizing and criticising control. That this control has been kept conscientiously in view, and by going to the sources is demonstrated for instance by the chapter on the serum-test for blood, where in a few words the essential points of the method are described and in such a way as to prove the author possesses an intrinsic knowledge of the underlying principles of the method. This text-book will be a standard book for some time, not only for practical purposes, but also as a source of reliable and accurate information.

DIAGNOSTIK DER KRANKHEITEN DES NERVENSYSTEMS. By DR. A. GOLDSCHIEDER. Fischer's Medicin. Buchhandlung. H. Kornfeld, Berlin. C. Stechert, New York.

This is a third edition of a work on the diagnosis of the diseases of the nervous system which has been a conspicuous success since its first appearance in 1893. The present edition has been considerably augmented by the addition of new matter. The arrangement of the book is very convenient. Especially to be recommended is the chapter on the examination of speech defects. The diagrams are a great aid to the proper understanding of this complicated subject. The chapter on topical diagnosis is exceptionally well planned for the purpose of accurate localization. A separate chapter on the diagnosis of diseases contains, in a very brief way, the principal symptoms of the most important types of nervous diseases arranged in a very compact form. No more satisfactory work on diagnosis is known to the reviewer than this. Its chief recommendation is its accuracy and satisfactory arrangement.

BEITRAG ZUR DIAGNOSE UND LEHRE VOM CRETINISMUS. By DR. G. P. BAYON. A. Stuber's Verlag, Wuertzburg. 1903.

This is a very readable little monograph on a subject which has received of late comparatively little attention. The author considers only such theories and opinions which have received recognition. These in turn he has been able to prove, or the reverse, by the study of his own material, which is considerable. A chapter on the history of the disease adds much to the value of the monograph. A very complete bibliography is a feature deserving mention. This may be said to be a very readable little work on a subject which is always of great interest.

SURGICAL DISEASES OF THE ABDOMEN. WITH SPECIAL REFERENCE TO DIAGNOSIS. By RICHARD DOUGLAS, M. D. Illustrated by 20 full-page plates. Philadelphia: P. Blakiston's Son & Company.

This is a handsome book of 183 pages, and contains in addition to the plates above mentioned many other extremely valuable features. The literature review is considerably better than is found in similar books of this kind. For instance, in detailing the early history of the surgical treatment of typhoid perforation, the author goes farther than his fellows by telling us not only who the fathers of this sort of work were, but by informing us where their writings are to be found. The same can be said of most of

the other subjects treated. The author has been a teacher and a practical worker in this field for more than eighteen years, and in this book supplies, or attempts to supply, what he found lacking and unsatisfactory in similar works. He lays great stress upon diagnosis, and purposely neglects many technical points which are to be had elsewhere. He contents himself with simply indicating the desirability of the procedure without further burdening his reader. Consequently the work has a greater value, as it should, for the practical surgeon than for the student, who naturally has no need of such a work.

THE PRACTICE OF OBSTETRICS. Designed for the Use of Students and Practitioners. By J. CLIFTON EDGAR, M. D., Professor of Obstetrics and Clinical Midwifery in the Medical College of Cornell University, New York. Royal octavo, 111 pages, 1221 illustrations. P. Blakiston's Son & Company, Philadelphia. Price, \$6.00.

This volume is founded upon fifteen years' work in maternity hospitals and in bedside and didactic teaching. The aim of the volume is to present the subject of midwifery from a clinical and practical standpoint, and for this purpose a new and simple way of classification has been adopted. We may say that one of the most pleasing characteristics of this up-to-date text-book is the splendid and clear arrangement of the text matter. The work is divided into ten parts. Each part begins with the table of contents of that part and is subdivided into sections. Again, each section is headed with a sub-table of its contents. This clear classification insures ease in finding the subject considered.

Another feature which clearly distinguishes this text-book of obstetrics from any other is its wealth in excellent illustrations. Their total number is 1221, most of which are original.

Both in the text and in the illustrating uniformity and consistency are kept constantly in view. It is clear that the value and importance of each subject has been carefully weighed, for each subject is given its appropriate and congruous space. We emphasize this point because many of the modern text-books are decidedly deficient in this respect, indicating too clearly the subjects in which the writer is particularly interested. Edgar's work is a good example of a well-balanced text-book, and we cannot fail in assuming that just this feature among many others will guarantee the volume the patronage of both teachers and students.

ATLAS OF TOPOGRAPHICAL ANATOMY. By DR. O. SCHULTZE, Extraordinary Professor of Anatomy at Wuerzburg. With 70 colored plates after or taken from Originals by Schmitson and Hajek. Also 23 prints. Munich: F. J. Lehmann's Verlag. Price, \$4.00. 1903.

This volume is characterized by the same excellent quality of work which is now a recognized feature of the entire Lehmann series of medical atlases. The size is 4mo. and the work consists of 156 printed pages, exclusive of the large number of illustrations mentioned above. The quality of the cuts is simply above comparison, and the choice of subjects represented certainly conform, as nearly as would be possible, to the needs of the practicing surgeon. Many of the pictures present the subject at hand from a point of view different from that usually taken, hence their value is at once apparent, even to a man who possesses a number of similar works. For instance, the region of the Gasserian ganglion is better depicted than the reviewer has seen it elsewhere in any work of the same size. This book, like others of the same series, is intended to fulfill the wants of the busy practitioner, and at a remarkably small cost. The work is written in the German language, although a liberal translation of the title is given above.

TEXT-BOOK OF OBSTETRICS. By J. CLARENCE WEBSTER, M. D. (Edin.), F. R. C. P. E., F. R. S. E., Professor of Obstetrics and Gynecology, Rush Medical College, in Affiliation with the University of Chicago;

Obstetrician and Gynecologist to the Presbyterian Hospital, Chicago; Obstetrician to the Chicago Lying-in Hospital and Dispensary, Chicago, etc., etc. Handsome octavo volume of 767 pages, with 383 illustrations, 23 in colors. Philadelphia, New York, London: W. B. Saunders & Company. 1903. Cloth, \$5.00 net; sheep or half morocco, \$6.00 net.

This work has been written for the student of obstetrics, as well as for the active practitioner. The anatomic changes accompanying pregnancy, labor and the puerperium are described more fully and lucidly than in any other text-book. The exposition of these sections is based mainly upon studies of frozen specimens, in which department the author has had a larger experience than any other worker. Unusual consideration is given to embryologic and physiologic data of importance in their relation to obstetrics. The practical aspects of the subject are presented in such a manner as to be of direct assistance to the clinician. The illustrative feature of the work is far above the average. Many of the illustrations are entirely original. The work throughout expresses the most advanced thought of the day, and the statement can be relied upon as accurate.

DISEASES OF THE ANUS, RECTUM AND PELVIC COLON. By JAMES P. TUTTLE, A. M., M. D. With 8 colored plates and 338 illustrations in the text. New York: D. Appleton & Co.

As might be expected, a book of 961 pages can justly be expected to offer an exhaustive treatise on this subject. The representation of the author, based upon his years of experience in these lines, also prepare us for what is best in this line, and it is the reviewer's opinion that the practicing physician will find his needs amply supplied herein. This field of surgery has been so broadened in the past ten years as to make it almost a new one. During this time the author has conducted a large clinic, and what we find within these covers is largely a matter of personal experience during that time. Of course the book contains the principles established by others, but it is marked by a certain individuality, as will be readily noted. Not only are there a number of colored plates, but black illustrations to the number of 339, which serve to elucidate the subject-matter. The chapter on colostomy is worth the price of the book alone; but the chief value of the work will surely seem to many to lie in the help which it offers the beginner in making his diagnosis.

ANALYSIS OF THE SEXUAL IMPULSE—LOVE AND PAIN—THE SEXUAL IMPULSE IN WOMEN. Third Volume in Series "Studies in the Psychology of Sex." By HAVELOCK ELLIS, L. S. A. (England), Fellow of the Medico-Legal Society of New York and Anthropological Society of Berlin; Honorary Fellow of the Chicago Academy of Medicine, etc.; General Editor of the "Contemporary Science Series" since 1899. Extra cloth, \$2.00 net, delivered. Sold only to physicians, lawyers, clergymen, advanced teachers and scientists. Philadelphia: F. A. Davis Company, publishers, No. 1914-16 Cherry street.

This is the third volume of the "Studies in the Psychology of Sex." The present volume deals with some of the most essential problems of sexual psychology. It begins with an analysis of the sexual impulse. The author adheres to the theory that the impulse consists of two different processes: one of tumescence followed by one of detumescence. In the second study, "Love and Pain," among other questions the sources are discussed of those aberrations which are commonly known as "sadism" and "masochism." In the third study of the present volume on "Sexual Impulse in Women," we approach a practical question of applied sexual psychology, and a question of the first importance. In an appendix will be found a selection of histories of more or less

normal sexual development. These twelve histories are added not only because they are exceedingly interesting in themselves, but because they exhibit the nature of the material upon which the writer's conclusions are founded.

The two preceding volumes of these "Studies" have been translated into numerous foreign languages and have gained for the author the name of the foremost authority on sexual psychology. We do not doubt that this latest work will meet with the same success.

A TEXT-BOOK OF OPERATIVE SURGERY. Covering the Surgical Anatomy and Operative Technic Involved in the Operations of General Surgery. Written for Students and Practitioners. By WARREN STONE BICKHAM, Phar. M., M. D. Handsome octavo of 984 pages, with 559 illustrations, entirely original. Philadelphia, New York, London: W. B. Saunders & Company. 1903. Cloth, \$6.00 net; sheep or half morocco, \$7.00 net.

This neatly bound volume of 983 pages and 559 illustrations may be said to be along somewhat novel lines, and in its system and arrangement to differ somewhat from its predecessors. The other books which have been written simply by compiling the good points of ten predecessors cannot be said to apply to this volume. The illustrations are all original. They depict the successive steps in various operations in a manner which makes it possible for one who has never seen this or that procedure to carry out the same. A feature of undeniable value is that of the attention which has been paid to original anatomy as well as to pathological anatomy. The book will in this way be more useful to students than many excellent works which appeal simply to the surgeon or general practitioner. The principles of surgery, including anesthesia, etc., have not been neglected, and hence the value of the work is enhanced for the man whose shelves are as yet but sparsely filled. Especial mention must be made of the chapters on intestinal surgery. The cuts are among the best which have been presented upon this subject, and the clearness with which the several steps in each instance are presented will make this portion of the book of much more than ordinary value. While not every method is touched upon, still all of the most useful ones are given in a way which cannot fail to be appreciated.

BLOOD PRESSURE IN SURGERY. An Experimental and Clinical Research. By GEO. W. CRILE, A. M., M. D. Philadelphia and London: J. B. Lippincott & Co. 1903.

Dr. Crile's work along physiological lines with a surgical application is already too well known to need extended comment. It is enough to mention that the present Cartwright prize essay, forming a book of 422 pages, is of a quality in keeping with what the author has previously done. The methods employed and the valuable results obtained cannot be even adequately touched upon in a review of this kind. The author takes up the various problems relating to exhaustion of cerebral centers and stimulation. The questions elucidated are all of them intimately related to the daily problems of surgical practice; and since they are matters of vital importance, the work is assuredly well worth a perusal.

THE INTESTINAL SUTURE. A History of the Various Methods of Enterorrhaphy. By FELIX TERRIER and MARCEL BAUDOUIN. With 587 figures in the text. Paris Institut de Bibliographie Scientifique, 93 Boulevard Saint Germain. 1898.

This French book of 415 pages is the most complete work of its size which relates to the subject in hand. Its hundreds of illustrations depict apparently every method which has ever been published for the accomplishment of intestinal anastomosis. The title is in a sense misleading, though it must be said to be modestly done, since the book gives us all of the mechanical as well as the suture methods. The reader will be surprised on looking through the pages of this work to notice that all, without exception, of the methods which crop up as new and original from time to time have been advocated and discarded years before. It is simply astonishing to note what a number of procedures and modifications of procedures have been advanced in this line of surgery. If the enthusiast is still convinced that there is something new under the sun he has but to con-

sult a complete work of this kind. Though the volume is in a foreign language, its illustrations are of sufficient value to recompense the purchaser, even though he be not able to read it.

ASEPTIC AND ANTISEPTIC PREPARATIONS AND TREATMENT OF EMERGENCIES AFTER ABDOMINAL SURGICAL OPERATIONS. By GEO. WACKERHAGEN. New York: Erpolton, 19 E. 16th St. 1904. Price, \$1.00.

This is a neat little handbook of little more than pocket size; containing 44 pages, but its material is so well selected and so tersely treated that no criticism can be offered with regard to size. It is obviously intended for the busy man, and such a one can find in it what he wants at a glance.

THE PRACTICAL MEDICINE SERIES OF YEAR-BOOKS. Volume two, General Surgery. Edited by JOHN B. MURPHY, M. D. November, 1903. Chicago: The Year-Book Publishers, 40 Dearborn St.

This well-known series, composed of volumes of about 500 pages each, is intended to serve the busy man, the object being to readily acquaint him with the literature of the year passed, supposing that he has not had time nor opportunity to read many of the vast number of journals published. Every subject in surgery has been more or less fully dwelt with in the little volume at hand, and the reviewer thinks very wisely, since in many instances we have more than a simple abstract where an important point is involved; that is, the words of the original author have been reproduced, even though in some instances several pages have been consumed in doing this. A few illustrations bring out the more salient points.

ROENTGEN ATLAS. For Use of Physicians and Students. By DR. HEINRICH HUEBLER. Forty-eight tables. Dresden: Gerhard Kuehntmann. 1903. C. Stechert, New York.

The x-ray work of this author is as well known, and it may be said as favorably, as that of any other man in the world. The usefulness of the present atlas is decidedly enhanced by the fact that its printed matter appears in English, German and French. It is not only of value from the standpoint of Roentgen pathology, but likewise as a pattern of the normal, from which to derive a true conception of the pathological. Every part of the human anatomy is covered and most of the 48 plates are masterpieces in their way. The number of the various pictures presented is largely in excess of 48, since as high as four appear upon some of the plates, only the largest of them being given up to one single photograph. It is hardly possible to think of a decided condition or of any form of accidental injury which is not covered by this extensive and masterful work.

THE FOUR EPOCHS OF WOMAN'S LIFE. A Study in Hygiene. By ANNA M. GALBRAITH, M. D. Second edition, revised and enlarged. Philadelphia: W. B. Saunders & Co. 1903. Cloth, \$1.50.

In this instructive work are stated, in a modest, pleasing and conclusive manner, those truths of which every woman should have some knowledge. The subject is discussed in language readily grasped even by those unfamiliar with medical subjects.

THE RIGHT TO LIFE OF THE UNBORN CHILD. A Controversy Between Professor HECTOR TREUB, M. D., Rev. R. VAN OPPENRAAY, D. D., and Professor TH. M. VLAMING, M. D. New York: Joseph W. Wagner. Price, \$1.00.

The question of the right of the physician to destroy, under certain conditions, the fetal life in an effort to save the mother, is a very vexed one, and has been the subject of many heated discussions between physicians and theologists.

The little volume before us is the English translation of such a controversy started by the famous Professor of Obstetrics of the University of Leyden, Dr. Hector Treub, who criticized the decree of the Holy Office in Rome (forbidding artificial abortion under all conditions), as being unwise and exceedingly narrow. The attentive reader of this book cannot possibly deny that both the accuser and the defenders present splendid arguments in defense of their respective positions; and, therefore, it is to be regret-

ted that the translator, a reverend, by certain inaccuracies in the translation and by the addition of "notes wherever they were thought desirable," deprives the reader of the opportunity to form an unbiased opinion. The translator endeavors to influence the reader against the arguments of the physician. Thus, *e. g.*, he confounds laparotomy with Caesarian section, or states emphatically that "all the foremost American medical writers" consider artificial abortion as unjustifiable, and advise the interruption of pregnancy after the fetus is viable, or Caesarian section at full term. It is obvious that this statement in this form is untrue and nonsensical. No physician will, in a case of uncontrollable vomiting, wait until "the fetus is viable," and every one of the American text-books teaches that under certain circumstances artificial abortion is not only justifiable, but strictly indicated.

The translator saw fit to add an appendix giving an account of a recently discovered "new" method of producing artificial abortion which permits of baptizing the fetus *in utero*.

LES MALADIES DESQUAMATIVES (Pityriasis et Alopecies pelliculaires).
By DOCTOR R. SABOURAUD. Masson et Cie, Paris. 1904.

This is the second volume of "Maladies du Cuir Chevelu" by the same author. The first volume is entitled "Maladies Seborrhéiques" and was reviewed in another number of this journal.

The present volume is the most exhaustive study of a subject the reviewer has yet seen. The book consists of 705 pages, which represents an appalling amount of work when one contemplates the minutia into which the author enters.

The first part, 269 pages, is devoted to the history of pityriasis in general and includes a critical survey of the writings of the most prominent authors upon that subject up to the present time.

Part II is the study of pityriasis proper and is divided into five sections:

Section I is devoted to the elementary lesion of pityriasis, the scale; it treats of its formation, evolution, histology, bacteriology and the various conditions in which it occurs.

Section II. The evolution of pityriasis in children, men and women.

Section III. The study of the polymorphic coccus of pityriasis which is the organism whose morphology was first described by Cedercreutz.

Section IV. The differentiation of pityriasis. Here the author shows his individuality and goes into the fine and closely drawn details so characteristically French.

Section V. Upon the therapeutics of pityriasis concludes the book. The volume is a classic and a monument to industry and French dermatology. For students of medicine, young or old, it is an example; for the dermatologist a rare treat, for the book brings the subject before him in all its details; whether he accepts the author's views or not is immaterial.

CLINICAL PATHOLOGY OF THE BLOOD. A Treatise on the General Principles and Special Applications of Hematology. By JAS. EWING.
Second edition. Lea Bros., Philadelphia and New York. 1903.

The new edition of Ewing's book does not differ in its general aspect from the former, which was generally received with favor by its readers. That such a clinical pathology does not do full justice to the pathology of the blood as such is of course self-evident, because for practical purposes, the morphologic side of the subject is as yet the most important. The attempt of the author to interpret the more obscure processes going on in the blood that are of prime weight biologically, is well shown by a very lucid and clear review of the immunity processes. It is unnecessary to say that the literature has been utilized almost up to the time of the publication of the book and no valuable addition to the sum of our present knowledge has been neglected. For this reason alone the book is welcome. Another reason is the conservative tenor expressed in the valuation of blood findings in pathologic conditions, a point that is sadly overlooked in other works on hematology. As to the chapter on the microscopic technique, the desire may be expressed that a more precise and definite representation of the methods should have appeared. This applies especially to the staining methods, which have reached, of late, a degree of definiteness and precision so far impossible in other branches of histologic work. In all, it must be said that Ewing's book in its new edition is the best representation of the subject so far published in our country.